

Spring 5-5-2017

Restitching Metro Atlanta

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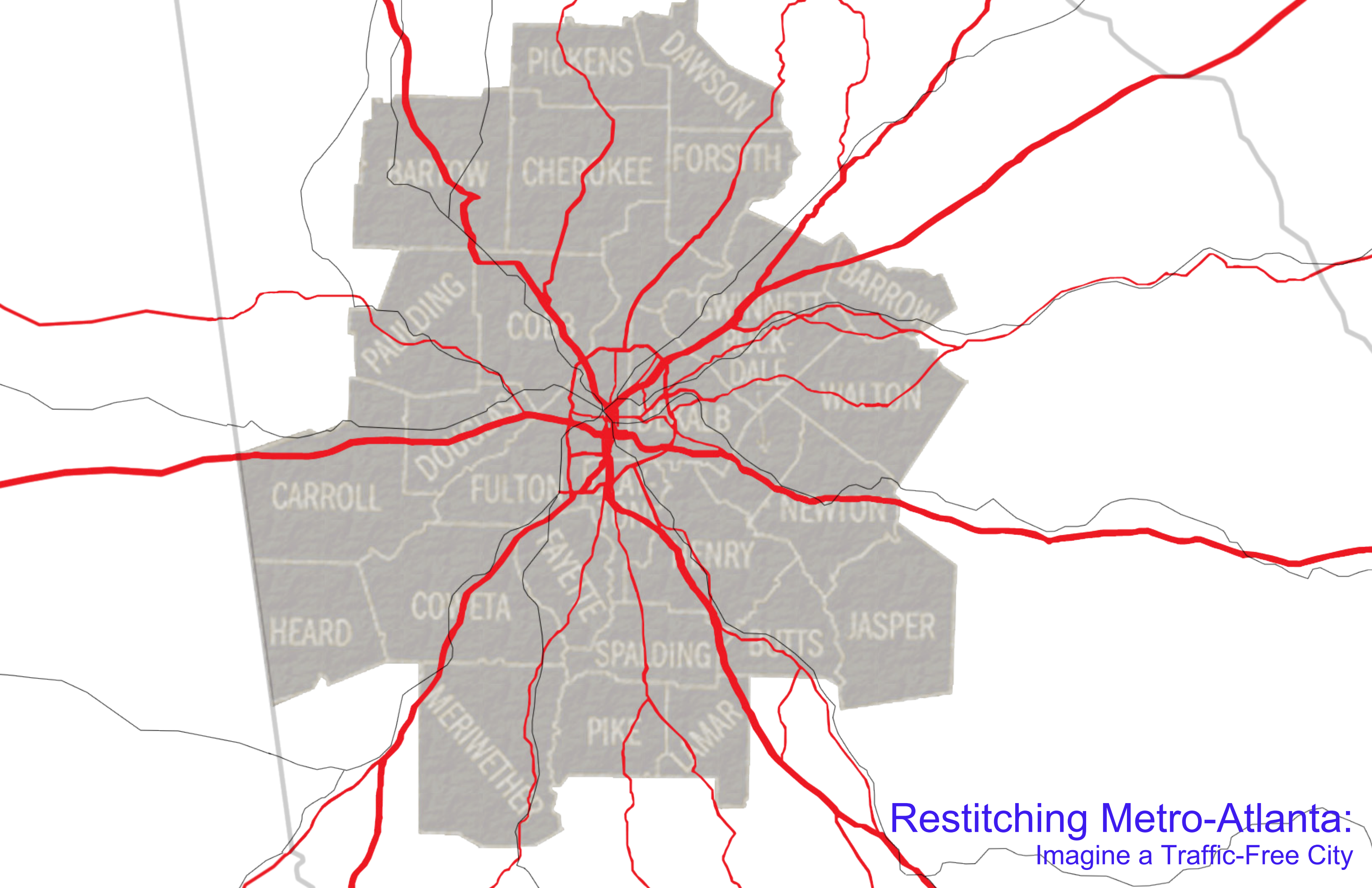


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Restitching Metro-Atlanta:
Imagine a Traffic-Free City

Department of Architecture
College of Architecture and Construction Management

Thesis Collaborative 2016 – 2017

Request for Approval of Project Book

Alexis Marie Corrao

Restitching Metro Atlanta

Thesis Summary:

This thesis aims to reconnect Metro Atlanta through the connection and expansion of the public transportation systems currently operating in Metro Atlanta, using the comparative analysis of New York and Atlanta to show the benefits of a unified transportation system. This thesis plans to show potential expansion of the MARTA rail system focusing on the live, work, play, and travel aspects of Metro Atlanta. Through the exploration of the analysis, this thesis will propose a master plan of the expanded MARTA rail system, with a zoomed in focus of one of the expansion rails. This thesis ultimately will propose a MARTA transfer station in one of the most populated, live, work, and play areas of Metro Atlanta.

Student Signature _____ Date _____

Approved by:

Internal Advisor 1 _____ Date _____

Internal Advisor 2 _____ Date _____

Thesis Coordinator: Professor Liz Martin _____ Date _____

Department Chair: Dr. Tony Rizzuto _____ Date _____

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3 Minute Thesis

I don't know about you, but I am tired of always running late. My commute, like most Atlanta residents is an hour each way. This adds up to 14 hours a week, 56 hours a month and 728 hours a year driving in my car. Every day when I sit through traffic my blood boils, my stress elevates, and my health declines. Unfortunately Metro Atlanta is only connected using our primary highway systems and our secondary and tertiary roads. How can our roads be our only option? Back in the 1800's, Atlanta had an effective train system making it the transportation hub of the south, naming Atlanta the Empire of the South. But over the 150 years, the transit system through Atlanta was slowly replaced with our current road system. Now, Atlanta is known as being one of the biggest transportation hubs in the world, thanks to Harts-field Jackson Airport which serves more than 260,000 people a day. Several nearby cities such as Chattanooga, Birmingham, and Montgomery depend on Atlanta's Airport for national and international flights. So how can we have effective international transportation system but fail in day to day transportation. Tokyo, London, Bogotà and New York are all effective at not only international travel but also day to day transportation. Tokyo connects the city with an extensive rail system and subway system and London is connected through an extensive train system, bus and river boat transportation. Citizens and tourists alike are able to travel across the city with ease.

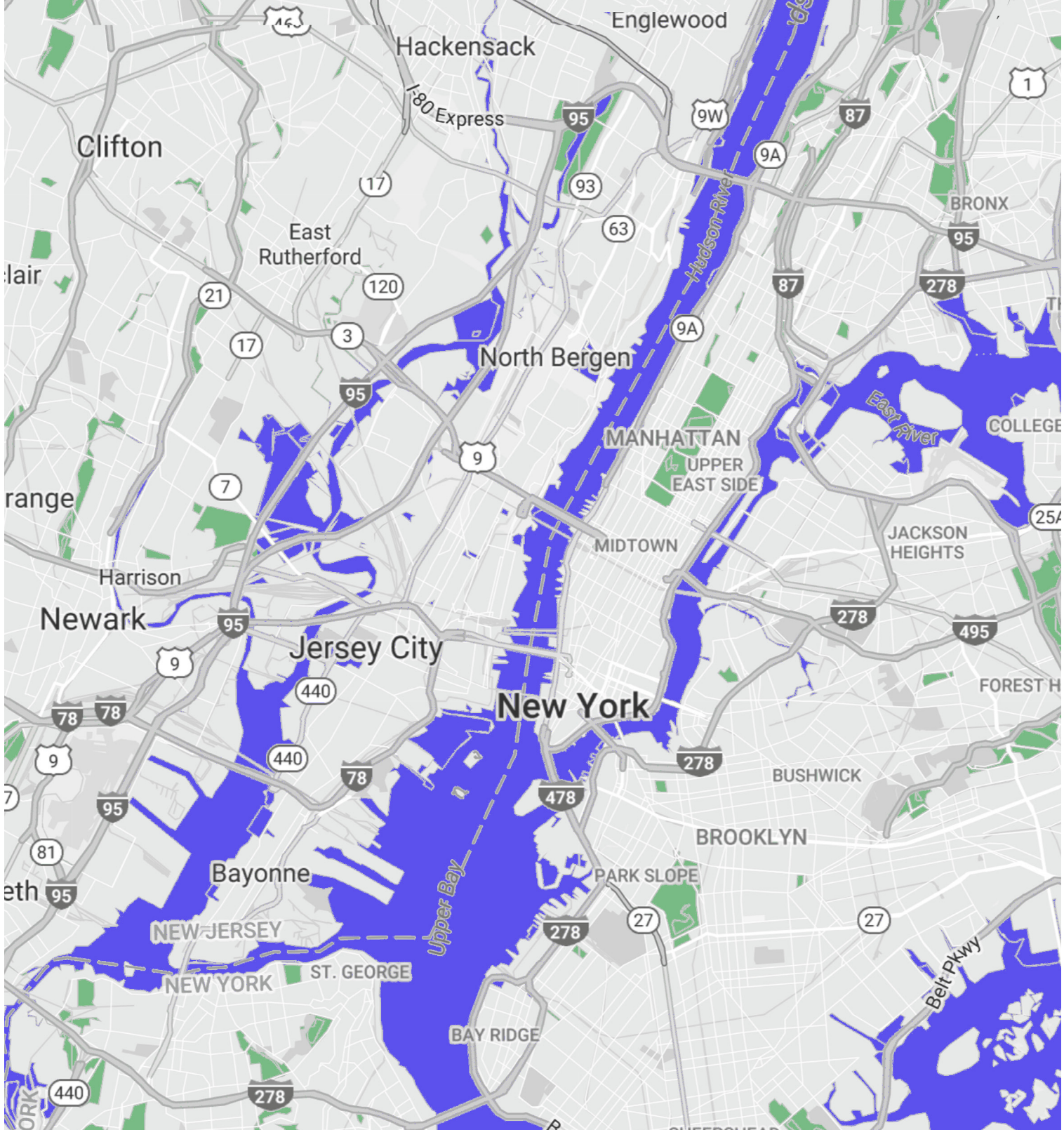
Let's imagine what the near future holds. Imagine traveling through Atlanta and Metro-Atlanta with ease. Imagine starting each day relaxed and on time. Imagine gaining those 728 hours back each year. Imagine a healthier city and a healthier lifestyle. In this dream, air pollution drastically decreases, along with lung cancer and other life threatening diseases. In this dream, cars don't dictate the roads or our lives and we are able to travel long distances efficiently without the use of gas.

This dream isn't impossible. Other leading global cities around the world use this technology. Cities like Paris, London, and New York all have one thing in common. They have an efficient public transportation system stretching to neighboring cities. It's time that Atlanta, Georgia the "Empire State of the South" joined the other economically booming cities. I propose we reintroduce public transportation in Atlanta, this reconnection would make Atlanta more accessible. We need to extend MARTA's limited reach through the extension of the rail system. We need to restitch Atlanta.

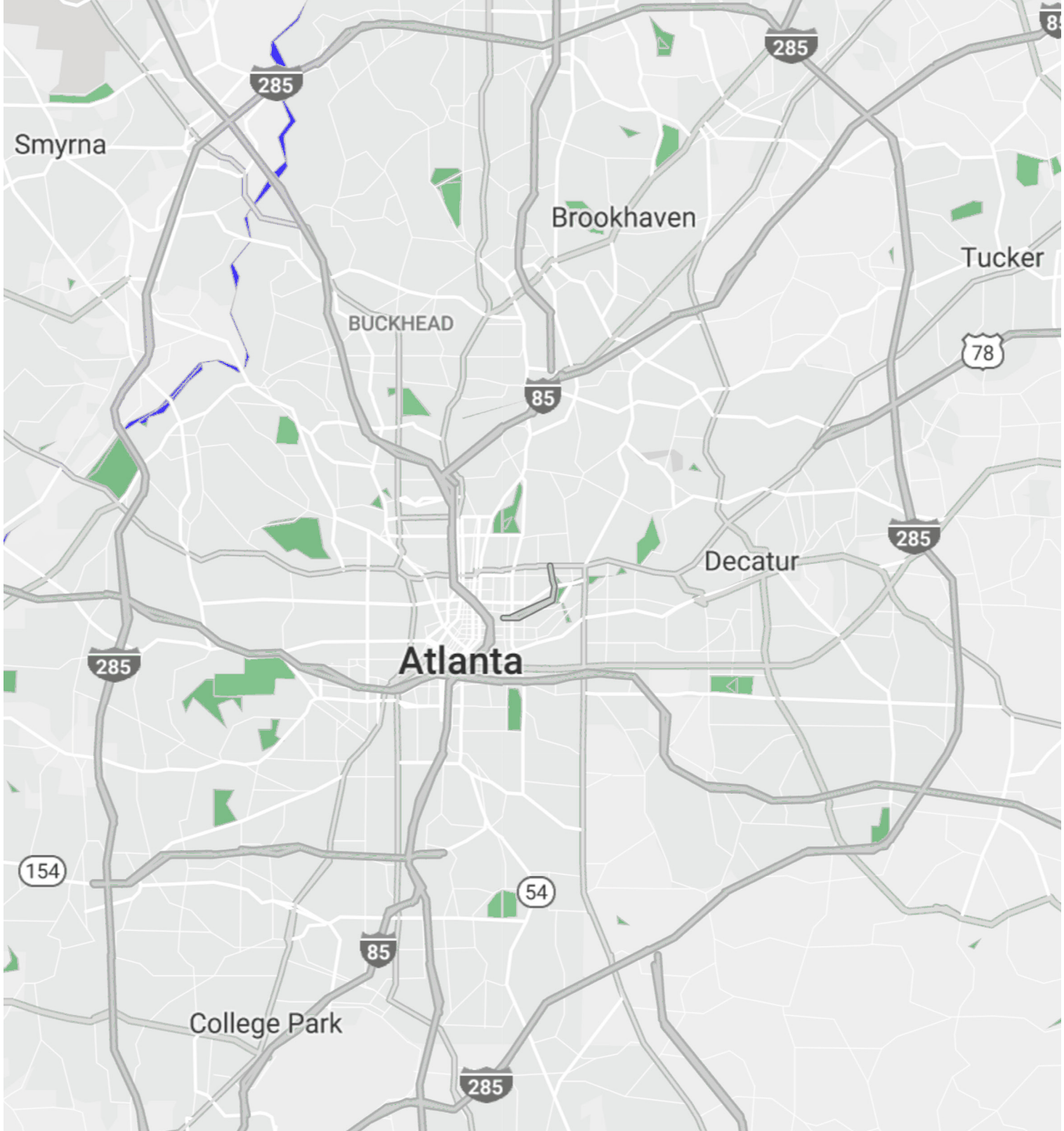
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Comparitive Analysis

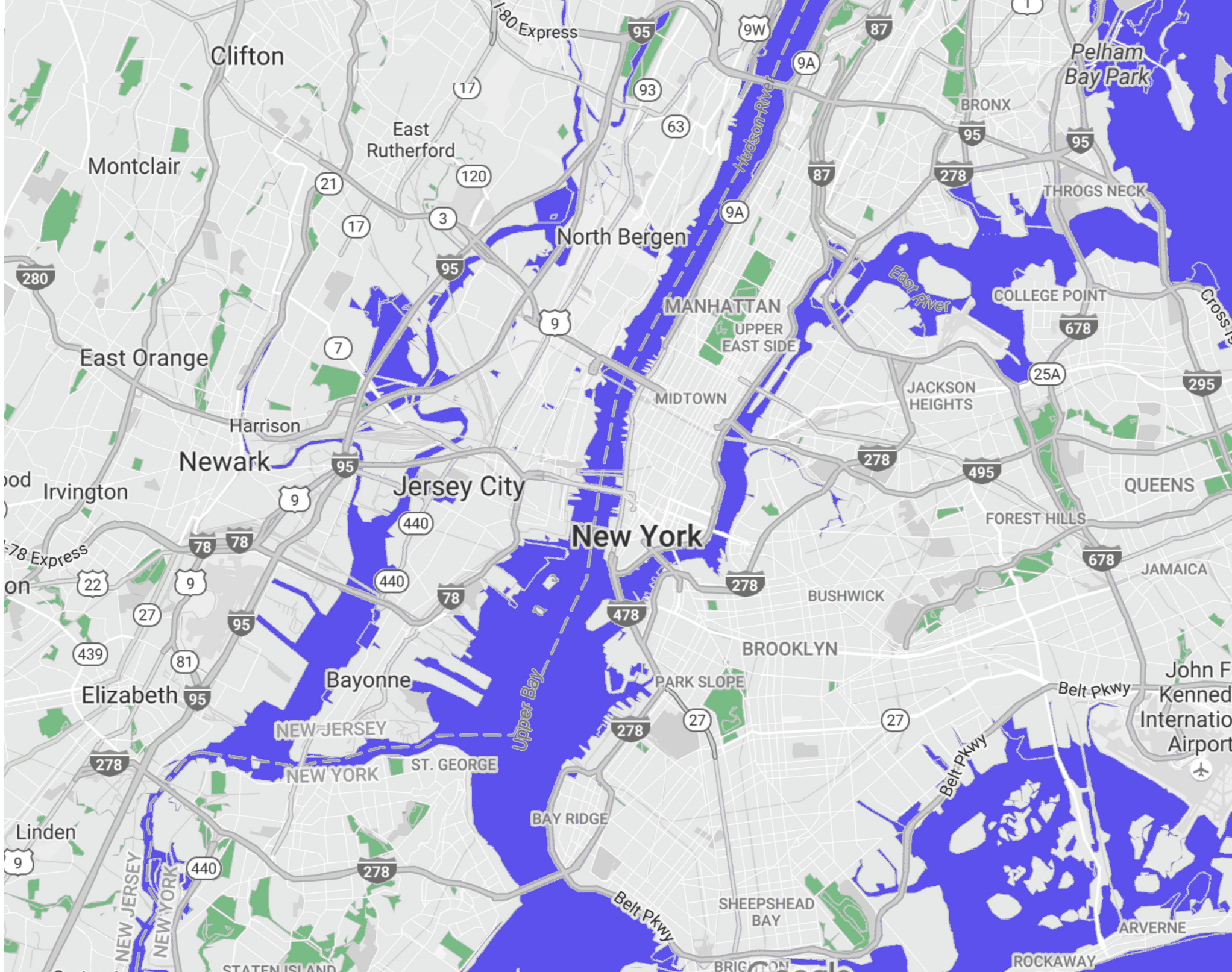


New York City



Atlanta

New York City



New York City Stats:
City Area in Square Miles: 304.6
Population: 8.55 Million
Number of Subway lines: 24
Track Miles: 662
Subway Stations: 469
Average Weekday Riders: 7,763,805

New York City Map

New York City Diagrams



New York City Population

New York Population:

New York City since the year 1840 has been the most populated city in the United States. In the year 1840, the population of New York City was 321,710. The population has steadily grown to the population of 8,550,405.

New York City is divided into 5 boroughs; Bronx, Brooklyn, Manhattan, Queens, and Staten Island. In the year 1898, Brooklyn, Queens, Staten Island, and the Bronx joined Manhattan in making up New York's Boroughs. Bronx currently has a population of 1,455,444. Brooklyn currently has a population of 2,636,735. Manhattan currently has a population of 1,644,518. Queens currently has a population of 2,339,150. Staten Island currently has a population of 474,558.

There are several pros to having a large population means a greater domestic market, attracting investors and multinational companies, stimulating investments in knowledge, generating more new ideas which improve productivity, market sizes stimulate innovative activity, increasing learning-by-doing due to pressures of increased production volume, more workers, more young people energizing the economy, increased consumption driving manufacturing and services, increased national savings, a big home market that is an attractive prize for successful new products, greater economies of scale, and an absolutely larger number of outstanding, highly effective people.

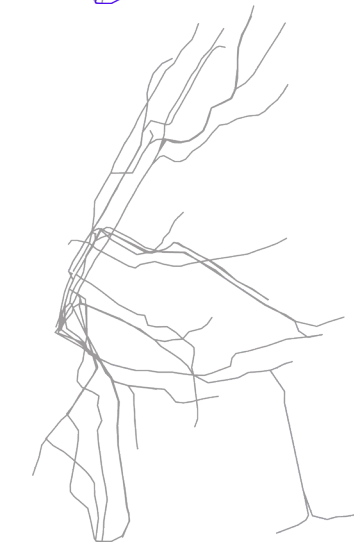
New York City Diagrams



Interborough Rapid Transit



Brooklyn- Manhattan Transit



Independent Subway System

Historic Lines



New York City Subway Lines

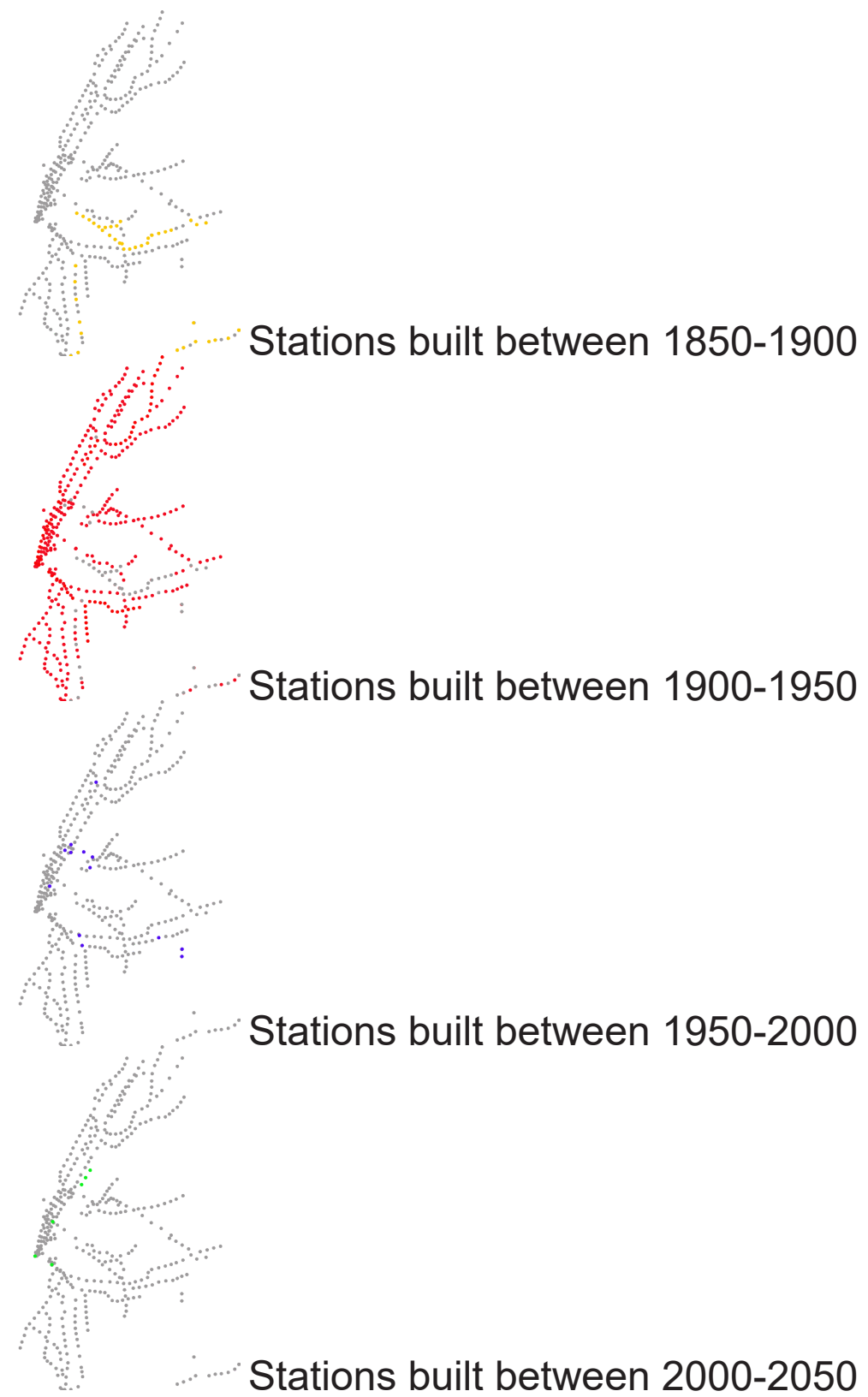
New York Subway Lines:

New York City's first public transportation route started in 1827 was a 12 seat stage coach that ran along Broadway from the Battery to Bleeker Street. Over the next 5 years, 2 more stage coaches were added. The following year in 1832, the stage coaches were replaced with a street railway powered by horses. By 1855, 593 omnibuses traveled on 27 routes. When electricity became more readily available, horse drawn omnibuses were replaced with electric trolley cars and trolley buses.

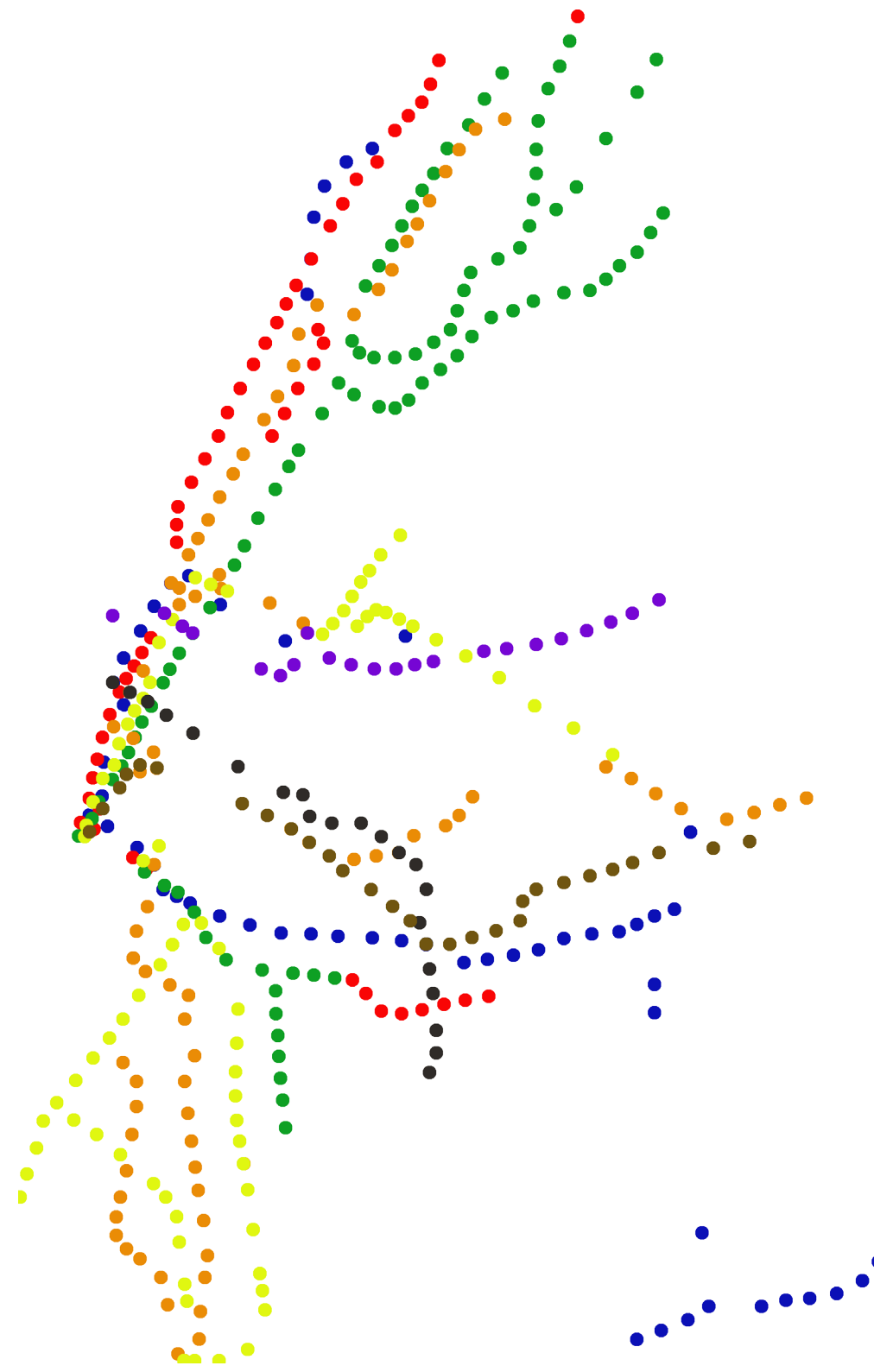
Prior to 1940, New York City's Rail lines were owned by three different private companies, Brooklyn Rapid Transit Company, Interborough Rapid Transit Company, and Independent Subway System. After 1940, the three companies were bought out by the cities and most of the above ground lines were closed.

In 1904, the first official subway was introduced in Manhattan. The Interborough Rapid Transit Company owned the 9.1 mile subway line consisting of 28 stations from City Hall to 145th Street and Broadway.

New York City Diagrams



Historic stops



New York City Subway Stations

New York Subway Stations:

Out of the 469 Stations, 280 are underground, 149 are elevated, 20 are in open cuts, 7 are at-grade, and 13 are on embankments. Most of the stations have mezzanines to allow pedestrians to enter from multiple locations at an intersection and proceed to the correct platform safely. 260 stations are decorated with artwork to promote the use of mass transit.

The Bronx has 70 stations. Brooklyn has 170 stations. Manhattan has 148 stations. Queens has 81 stations.

The top ten stations by annual ridership are Times Square (66,359,208), Grand Central (46,37,564), 34th Street-Herald Square (39,541,865), 14th Street- Union Square (35,320,623), 34th Street- Penn Station (Seventh Avenue) (38,309,160), 34th Street- Penn Station (Eighth Avenue) (26,147,434), 59th Street - Columbus Circle (23,299,666), Fulton Street (21,671,684), Lexington Avenue/ 59th Street (21,407,792), 86th Street (Lexington Avenue) (20,890,828).

New York City Experiential Mapping



MTA Experience

In order to experience New York First hand, I traveled to visit family in Matawan, New Jersey. My experiential analysis of New York includes the journey into the city through a park and ride located in Secaucus New Jersey just before the Lincoln Tunnel. Every morning in order to drive to the park and ride, we needed to arrive at the park and ride prior to 10 am to get a parking/ bus ticket, as several people were attempting to use the small park and ride. Once in New York, I rode the subway frequently when traveling long distances, marking the station entered, the station exited and the time lapse spent on the train. When ready to leave, I would take a subway train back to the Port Authority to take the bus back to the park and ride. At night, the bus routes become less frequent making the wait up to an hour depending on the time of night.

New York City Experiential Mapping



Day One



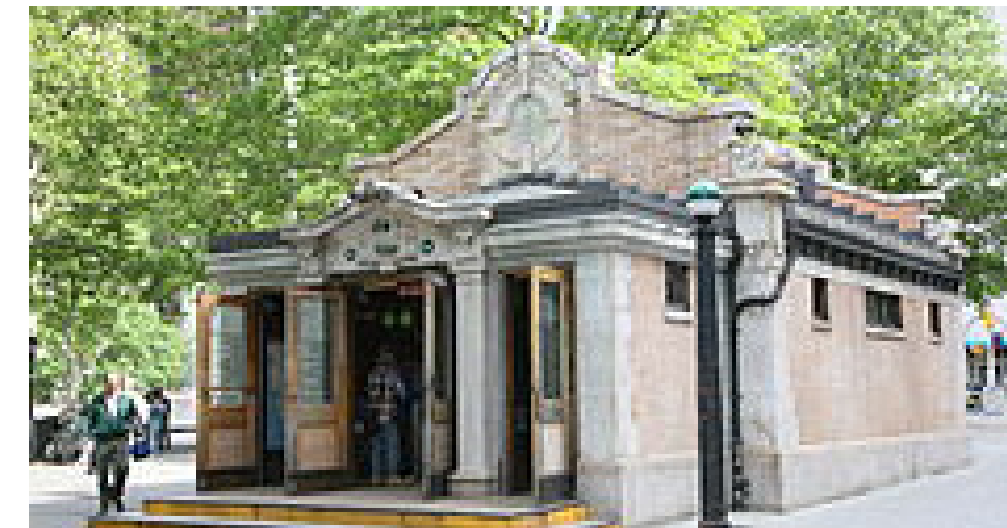
Experiential Mapping:

Once in the Port Authority, the goal of the day was traveling north into the Bronx for a Yankees Game. I started my journey walking east toward Grand Central Station. Where I entered the station to ride the 4 train to the Yankee Stadium station. The 4 train to yankee stadium took 30 minutes. After the game ended, I anticipated a busy station and a packed train, on the ride back to the Port Authority. The 4 train appeared busy, however the B line towards the port authority was not busy and the travel time was 25 minutes. I switched trains at Columbus Circle Station from the B train to the A train to complete my journey to the port authority. The time of travel was 5 minutes.

New York City Experiential Mapping



Day Two



Experiential Mapping:

Once in the Port Authority, the goal of the day was traveling south towards Battery Park to explore the World Trade Center, China Town, Little Italy, and explore Battery Park. I started my journey taking the A train to Canal Street. The trip took 10 minutes. I exited Canal Street and walked toward Ground Zero to see the memorial and Calatrava's new subway station. Afterwards, I walked to Battery Park and wandered toward the South Ferry. I entered the Bowling Green station and took the 5 train to Chamber Street to explore Chinatown and Little Italy. The ride took 5 minutes. After lunch, I entered the Canal Street Station to ride the N train. The train took 10 minutes to get to the Times Square 42 street station. Once there I walked through Time square toward the Port Authority Bus Terminal.

New York City Experiential Mapping



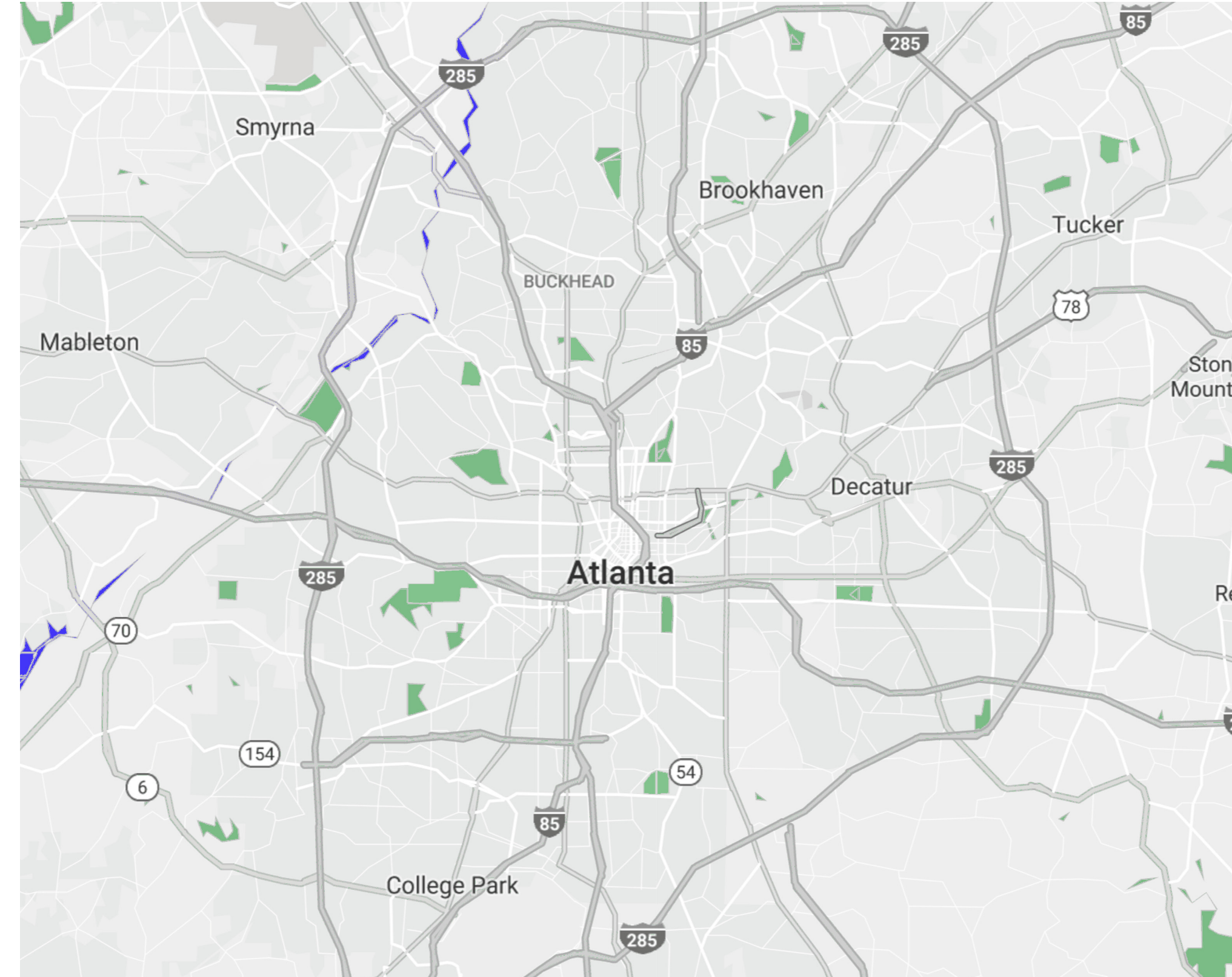
Day Three



Experiential Mapping:

Once in the Port Authority, the goal of the day was traveling north towards the Bronx Zoo then exploring Central Park. I started by entering the Columbus Circle station toward Bronx Park East. The trip took 45 minutes. After the zoo, I took the 2 train from Pelham Parkway to Central Park North. The train took 25 minutes. The Rest of the day was spent walking from Central Park North through central park toward the Port Authority Bus Terminal.

Atlanta



Atlanta Stats:

City Area in Square Miles: 134.2

Population: 463,878

Number of Subway lines: 4

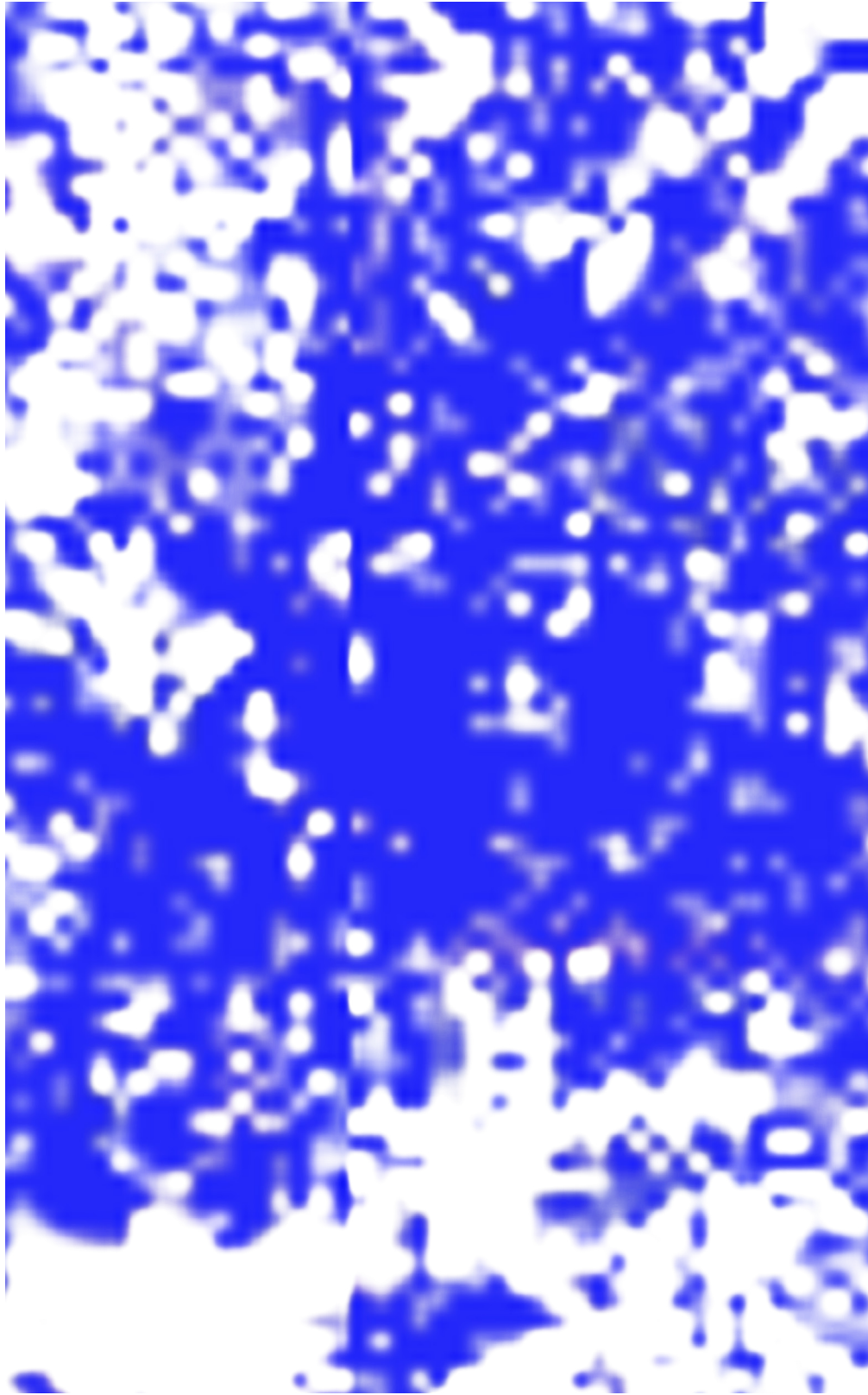
Track Miles: 48

Subway Stations: 38

Average Weekday Riders: 231,700

Atlanta Map

Atlanta Diagrams



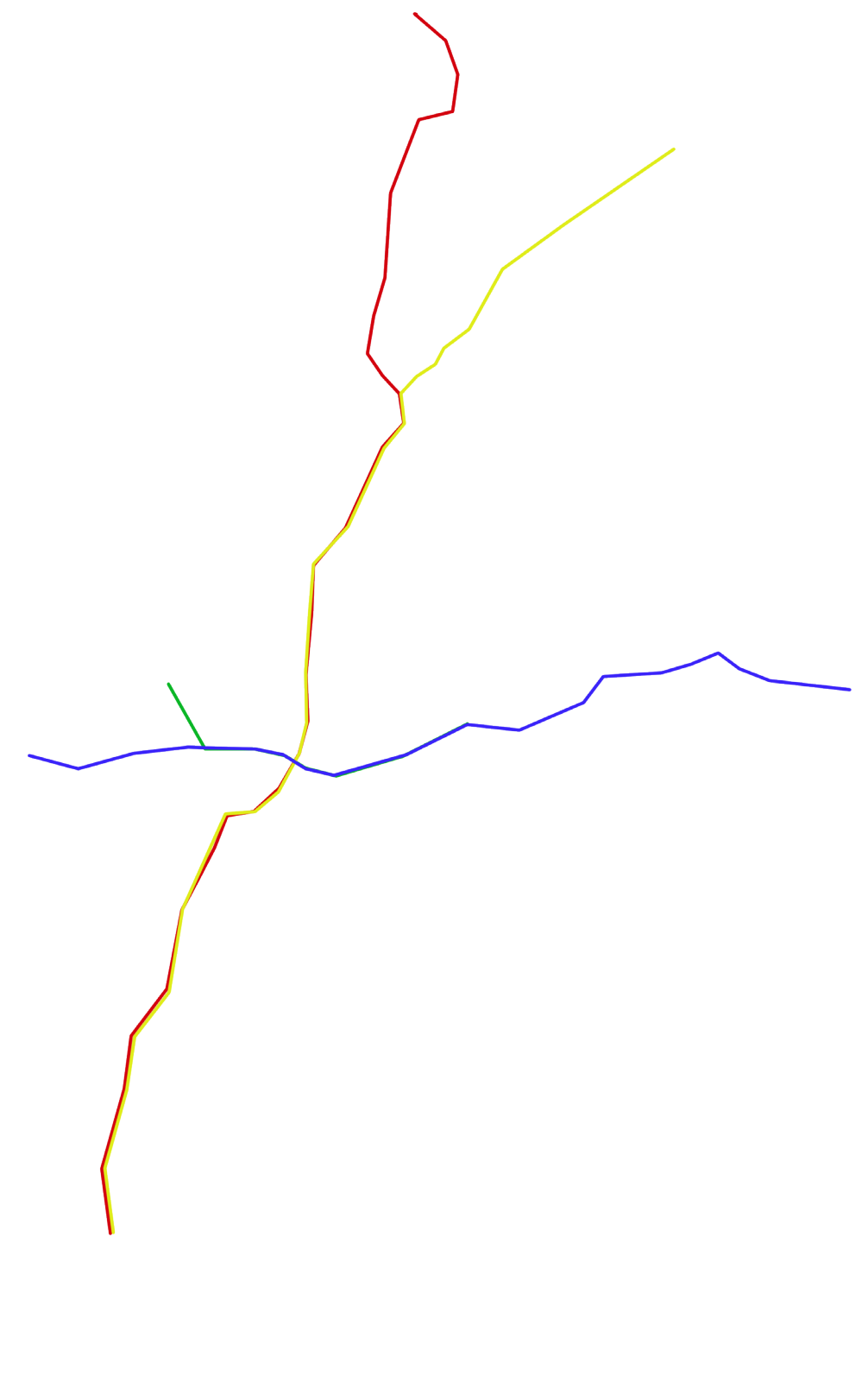
Atlanta Population

Atlanta Population:

Atlanta has grown in ranks of the most populated city since 1860, when Atlanta was the 99th largest city. In the year 1840, the population of Atlanta was 9,554. In 2009, Atlanta grew to its largest population of 540,922. Since then Atlanta's population has stayed fairly consistent with its population around 463,878. Atlanta is the cultural and economic center of the 9th largest metropolitan area in the United States. Atlanta is the 40th largest city in the United States.

Atlanta is generally broken up into 4 sections; Downtown, Midtown, East Side, and West Side. Downtown is Atlanta's central business district. Downtown houses several business headquarters and federal government facilities. Midtown is the second largest business district of Atlanta. Midtown is inbetween Downtown and Buckhead (the 3rd largest business district in Atlanta). The east side is all of Atlanta to the east of Midtown and Downtown. The East side is known for its character. West Midtown is the neighborhood to the west of midtown. West Midtown was once known for being industrial, now it contains urban lofts, art galleries, live music venues, retail and restaurants.

Atlanta Diagrams



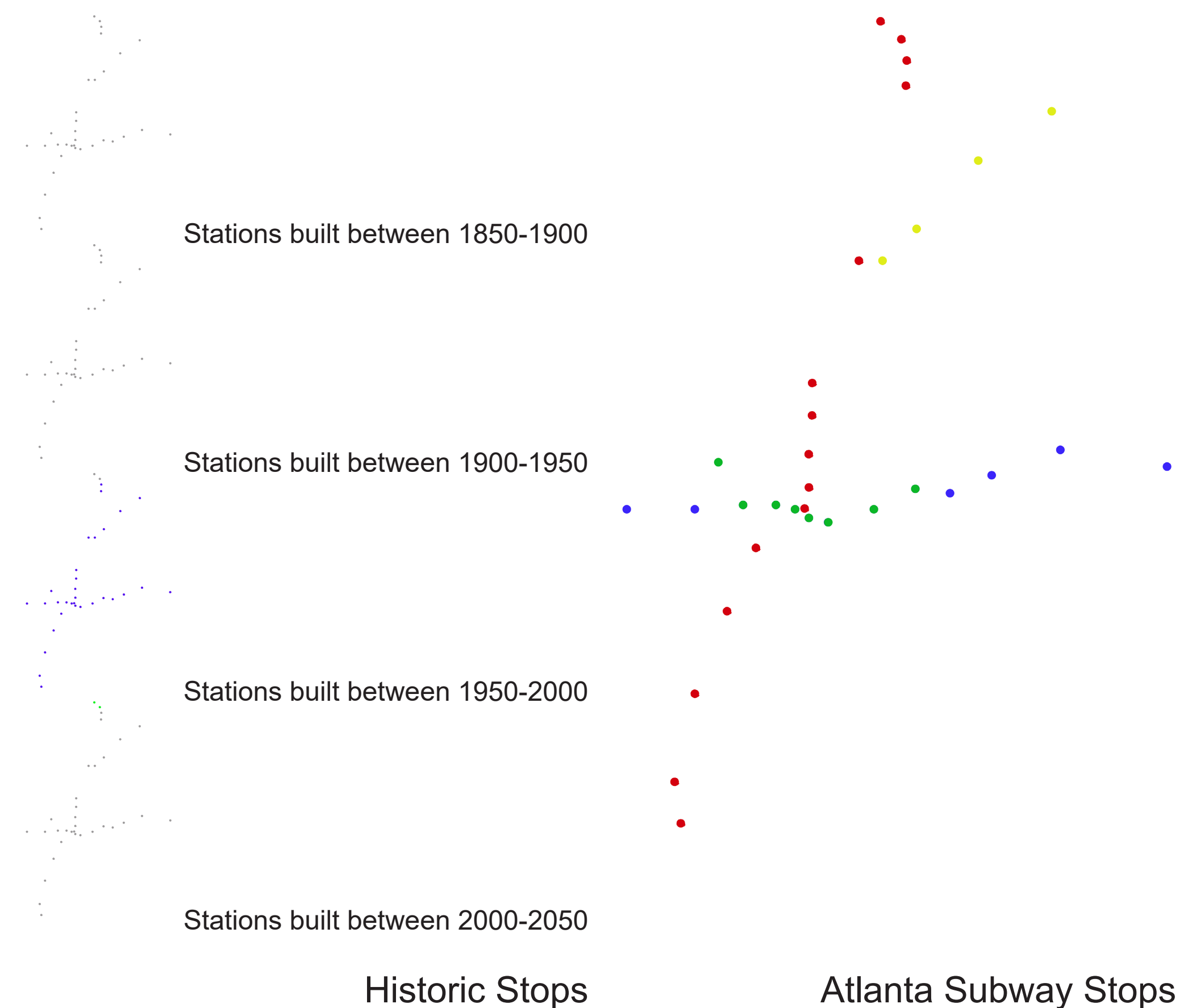
Atlanta Subway Lines

Atlanta Subway Lines:

MARTA was originally proposed for DeKalb county, Fulton County, Clayton County, Gwinnett County, and Cobb County in 1965. In the same year, DeKalb, Clayton, Gwinnett, and Fulton passed a referendum to participate in the system. Cobb County refused to participate. The referendum failed to due to funding issues. In 1971, Fulton county and DeKalb counties passed a 1% tax increase to fund the system, however Clayton county and Gwinnett county was not successful in passing the tax increase. In 1971, MARTA was formed as strictly a bus system, over the next several years, MARTA starting passing laws to allow for a rapid transit system. The first rail started construction in 1975 and was completed in 1979. The original plans for the MARTA rail system included the four lines that were built and proposed rails including; a Tucker-North Dekalb (service to Emory University and North Druid Hills), a Northwest line (service to Brookwood and Northside Drive), and an extension to the East- West line.

MARTA was built with plans to expand into Cobb county, Clayton county, and Gwinnett county. Cobb county's stub ends just east of Atlantic Station, however when Atlantic Station was developed the stub point for MARTA was not in consideration blocking the plan to extend. If Cobb county were to be connected to MARTA, the connection would be through bus, light rail, or commuter rail. Currently Cobb county is being connected through the Northwest corridor HOV/ BRT. The Northwest corridor is the elevated toll bridge that follows along side interstate 75. The South line's branch to Clayton county was initially denied due to the refused to approve tax funding for the line in 1971, however in 2014, the referendum was reintroduced and approved for the expansion into Clayton County. The gold line that ends in Doraville was proposed to extend into Gwinnett county, but with the county refused to raise taxes the expansion was never completed and Doraville remains a stub for the possible connection.

Atlanta Diagrams



Atlanta Subway Stations:

Out of the 38 Stations, 10 are underground, 13 are elevated, 3 are in open cuts, 10 are at-grade, and 2 are on embankments. Most of the stations have mezzanines to allow pedestrians to enter from multiple locations at an intersection and proceed to the correct platform safely. 260 stations are decorated with artwork to promote the use of mass transit.

The top ten stations by daily ridership are Five Points (19,447), Airport (9,173), College Park (9,026), Lindbergh Center (8,604), West End(7,453), Arts Center (6,605), H.E. Holmes (6,480), Kensington (6,436), Midtown (5,664), indian Creek (5,612).

Stations built between 1850-1900

Stations built between 1900-1950

Stations built between 1950-2000

Stations built between 2000-2050

Historic Stops

Atlanta Subway Stops

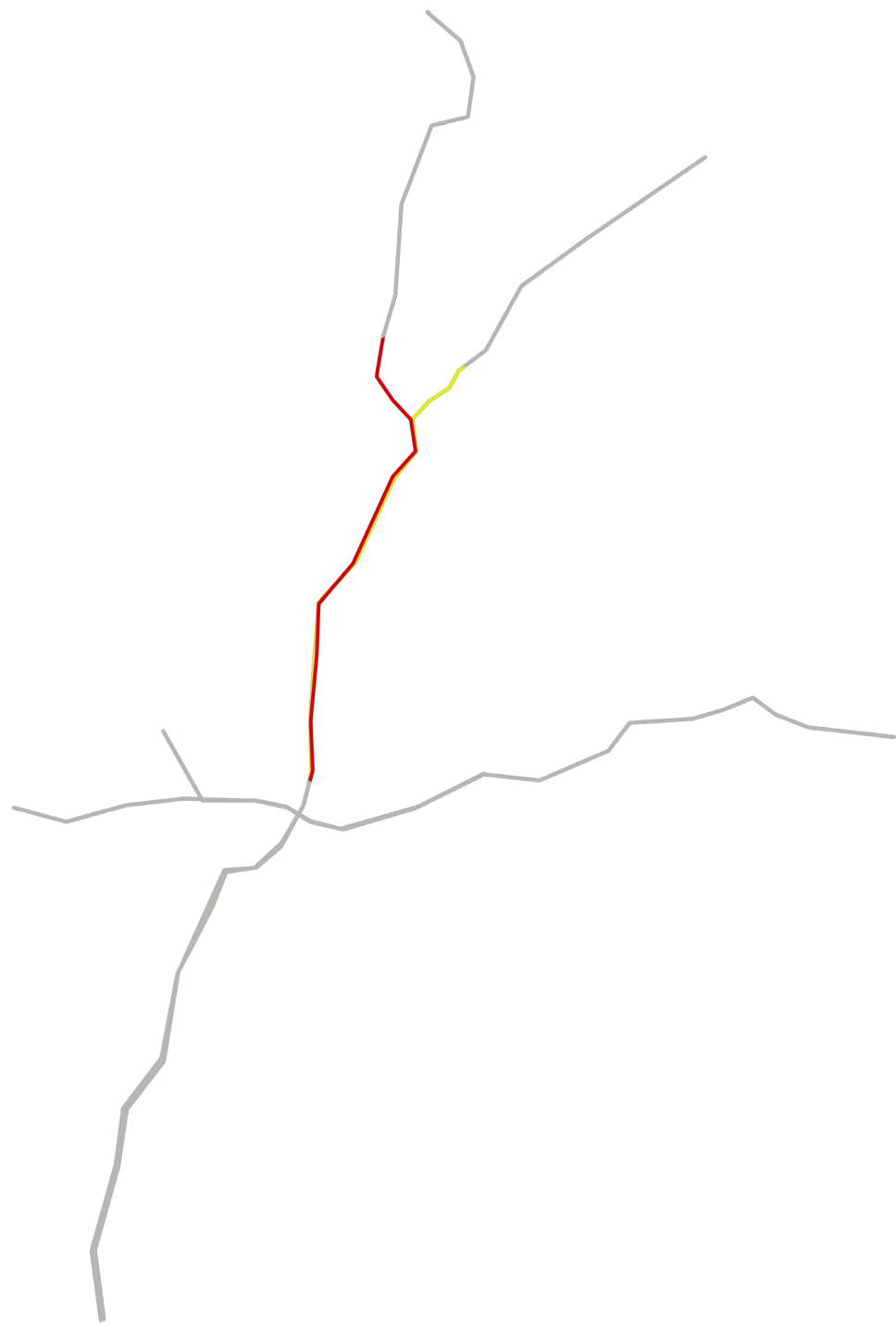
Atlanta Experiential Mapping



In order to experience MARTA first hand, I had to drive to or take a bus to the nearest MARTA rail station. Due to a time restraint, I drove to the nearest MARTA station with parking which happened to be the Lenox Mall location on the red and gold line. To get to the Lenox mall station, I had to drive on highway 75 and 285. The drive took me approximately 45 minutes in both directions.

MARTA Experience

Atlanta Experiential Mapping

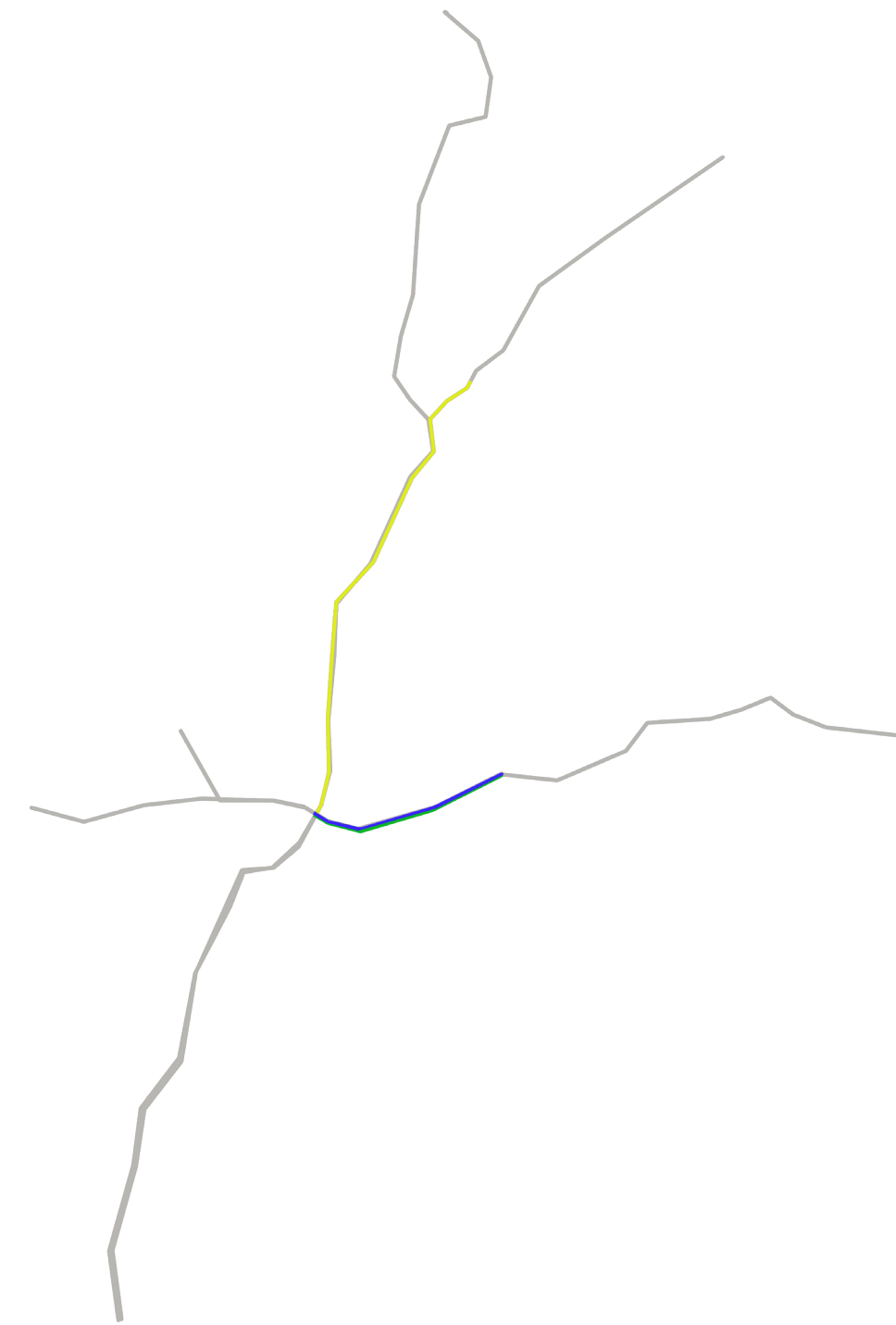


Day One

Experiential Mapping:

The first day of the experiential mapping for MARTA, I spent the day trying to experience the walkability of Atlanta and the distance of the MARTA stations. I took the gold train from the Lenox station to the Midtown station. The transit time between the 2 stations took approximately 20 minutes, however the wait for the train took approximately 10- 15 minutes. After exiting the station, I wandered through Midtown through Georgia Tech towards the North Avenue station. The time to meander through Midtown to North Avenue was approximately an hour and a half. In order to cross over the interstate, there were only 2 bridges connecting the east and west side. After walking to the North Avenue station, I took the red line to the Buckhead station and walked to the Lenox station. The travel time to the Buckhead Station was approximately 25 to 30 minutes.

Atlanta Experiential Mapping



Day Two

Experiential Mapping:

The second day of the experiential mapping for MARTA, I spent the day exploring the location of both the blue and red lines. I started with the Lenox station and took the gold train to Five Points station. The trip to Five Points took approximately 35 minutes. After exploring Five Points, I hopped on the blue line heading east towards Georgia State Station. The ride to Georgia State Station took 5 minutes. I meandered around the Georgia State Campus to determine the walkability of the campus and the accessibility of the MARTA station. Next I reentered the station and jumped on the green line toward Edgewood Park, the end of the green line. The travel time from Georgia State to Edgewood park was approximately 10 minutes. I wandered around the station to explore the differences between the urban stations and the suburban stations. After exploring the station I started my journey back toward Lenox by using the blue line and switching to the gold line at Five Points.

Comparitive Analysis Summary: NewYork City

New York Population:

New York City since the year 1840 has been the most populated city in the United States. In the year 1840, the population of New York City was 321,710. The population has steadily grown to the population of 8,550,405.

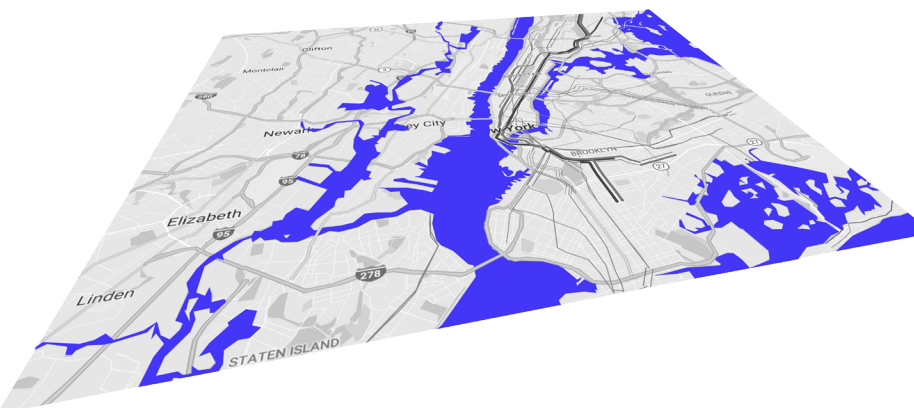
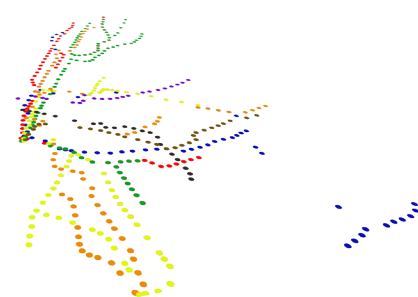
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Comparitive Analysis Summary: Atlanta

Atlanta Population:

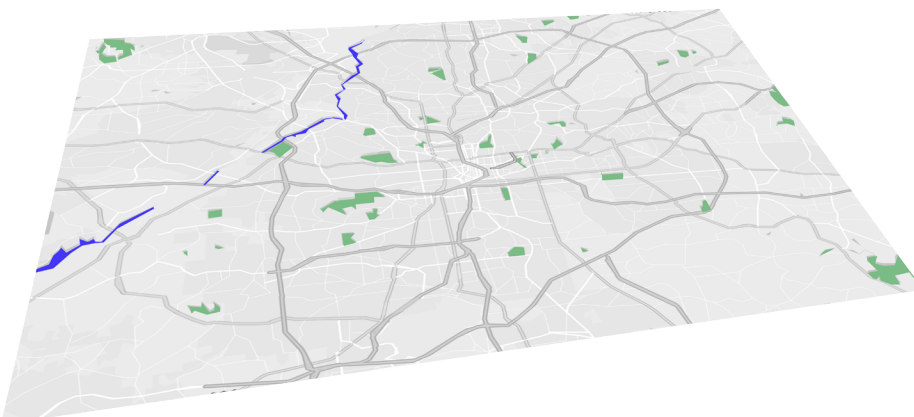
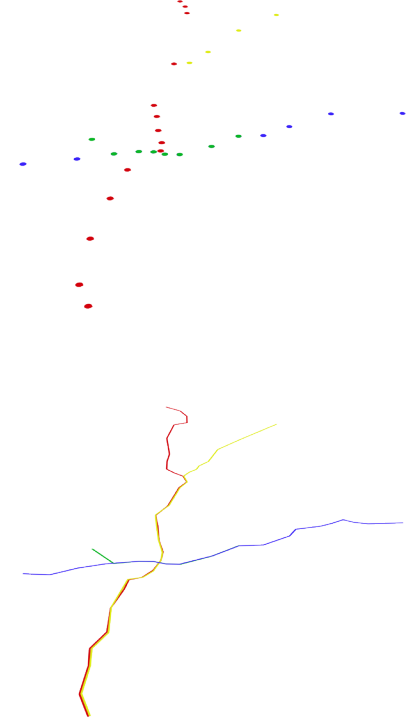
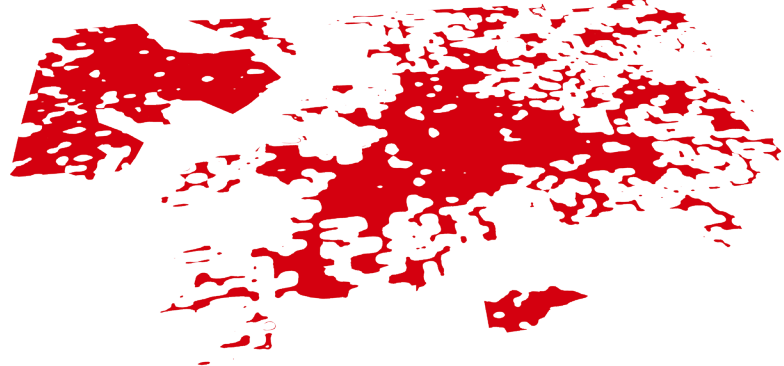
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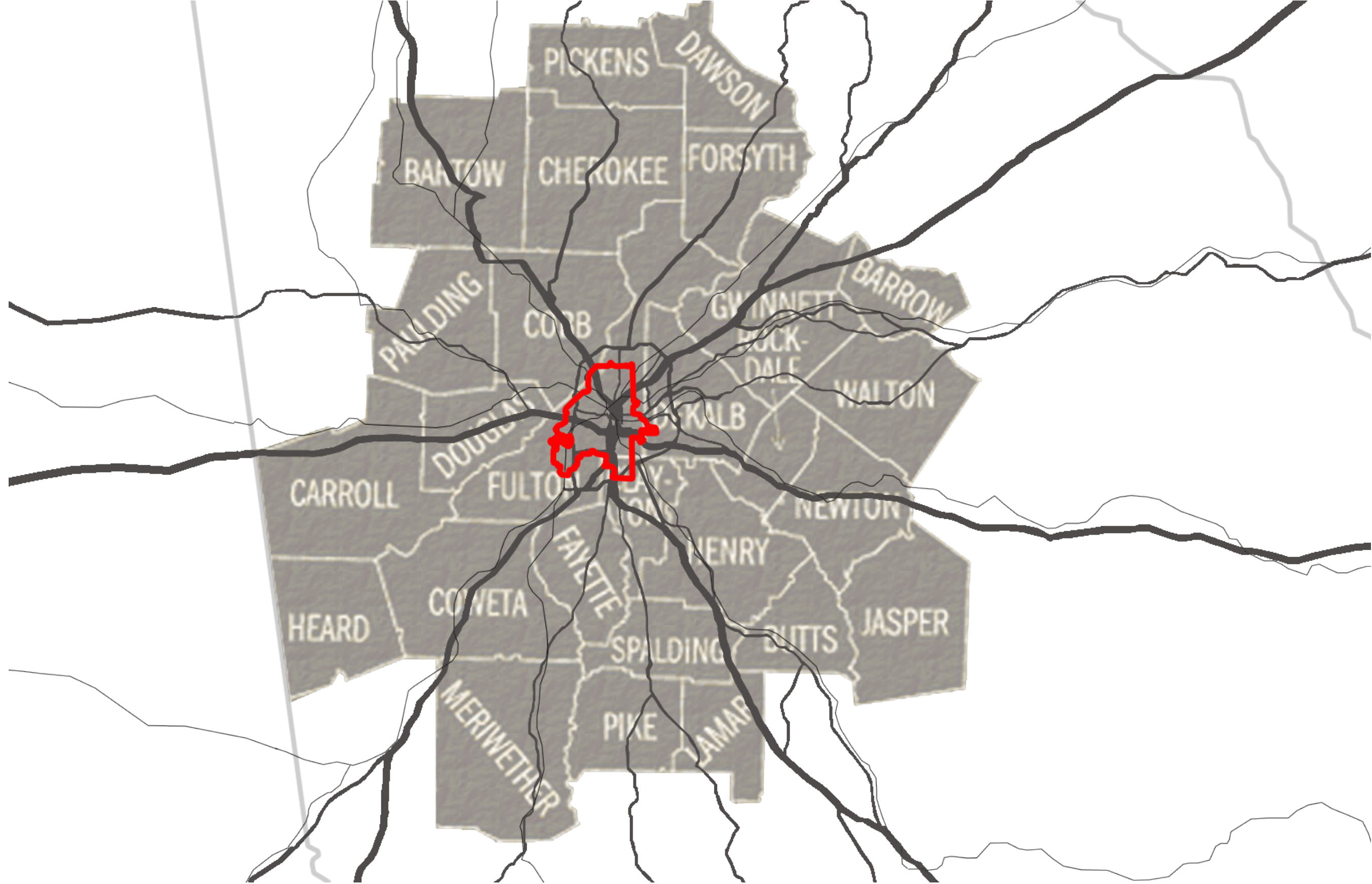
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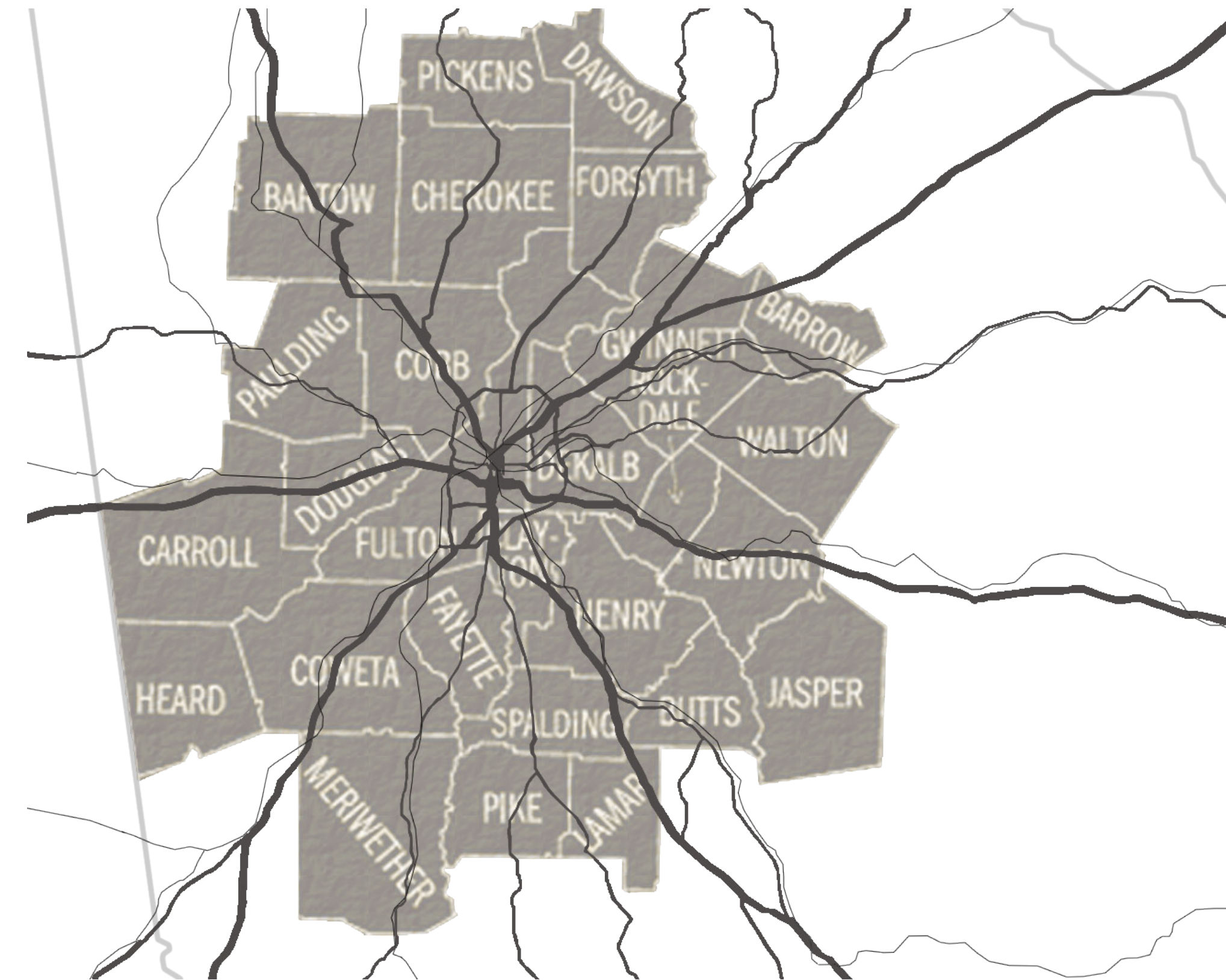
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Existing Conditions



Metro- Atlanta



Metro- Atlanta:
City Area in Square Miles: 8,376
Population: 4.5 Million
Number of Highways: 6
Highway Miles: 371.98

Metro- Atlanta Map

Metro Atlanta Diagrams

Metro Atlanta Public Transportation:

There are 5 different bus companies with routes throughout Metro Atlanta. MARTA (Metropolitan Atlanta Rapid Transit Authority), Gwinnett County Transit, Cherokee Area Transportation System (CATS), GRTA (Georgia Regional Transportation Authority) Xpress, and Cobb County Linc.

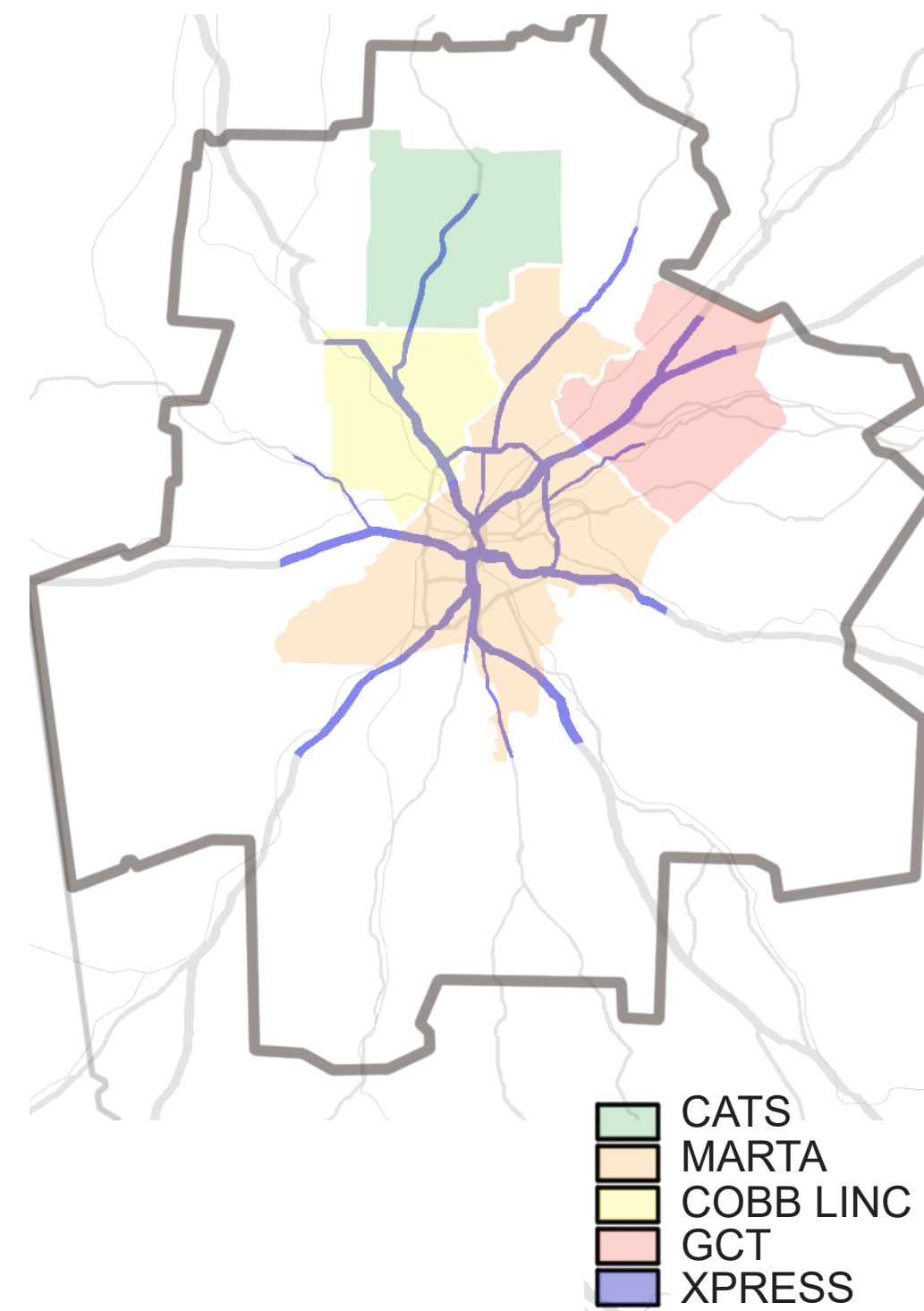
MARTA's bus routes run mostly through Fulton county, Dekalb county, and Clayton County. MARTA runs 91 routes running 1000 routes miles. MARTA connects to Cobb County Linc through the 2 service destinations in Cobb County (Six Flags Over Georgia and Cumberland Transfer center next to Cumberland Mall).

Cobb County Linc has 17 routes running mostly throughout Cobb County connecting the most populated cities. Cobb County Linc has its own Express routes that connect to MARTA's rail stations in downtown and midtown Atlanta.

Gwinnett County Transit runs solely through Gwinnett County. GCT has 5 local routes connecting the most populated cities of Gwinnett. GCT has express routes connecting to MARTA through the Doraville transit station.

Cherokee Area Transportation Area runs throughout Canton Georgia.

GRTA Xpress makes route along the highways to connect 12 counties to Atlanta. GRTA was created in response to Metro Atlanta's pollution problem, with the goal to reduce traffic for people living in counties that were unable to coordinate a bus system. GRTA Xpress currently has 33 routes throughout Metro Atlanta.



MARTA's Reach

Metro Atlanta Diagrams

Metro Atlanta Transportation:

Metro Atlanta's highway system is crucial to Georgia's Economy. The highway system connects Atlanta to the rest of the United States through the linkage of other major cities. Metro Atlanta's Highway system connects workers to employment opportunities in Atlanta and connects goods and services to the rest of Georgia and the rest of the United States. The highway system through Atlanta along with Hartsfield- Jackson Airport name Atlanta as the transportation hub of the Southeast. The highway system was constructed between 1960 to 1969. Starting with the construction of interstates 75 and 85 to connect atlanta to the North and the South. Next was the construction of interstate 20 to connect Atlanta to the east and the west. Followed the the construction of interstate 285 encircling Atlanta. The points in which the highways intersect are usually joined with a cloverleaf interchange. A cloverleaf interchange is connected using the right lane of each highway to either merge or loop around to merge onto the intersecting highway. The other type of interchange is a stack interchange. Tom Moreland interchange or more commonly known as spaghetti junction is the interchange for interstate 285 and interstate 85. Where as the cloverleaf interchange loops to connect, the stack interchange merges lanes become bridges crossing over the interstate before tying back into the interstate system. Since the highways construction in 1960 and 1970, urban sprawl grew rapidly. The urban sprawl increased traffic due to the more constant use of the highways. With the sudden increase in use of the highways, an expansion of the highways was dire. This trend continues to this day, when the highways stall with traffic, they are expanded to fit to the needs. Currently Atlanta commuters spend 51 hours in traffic each year, naming Atlanta as the 7th worse commute in the nation.

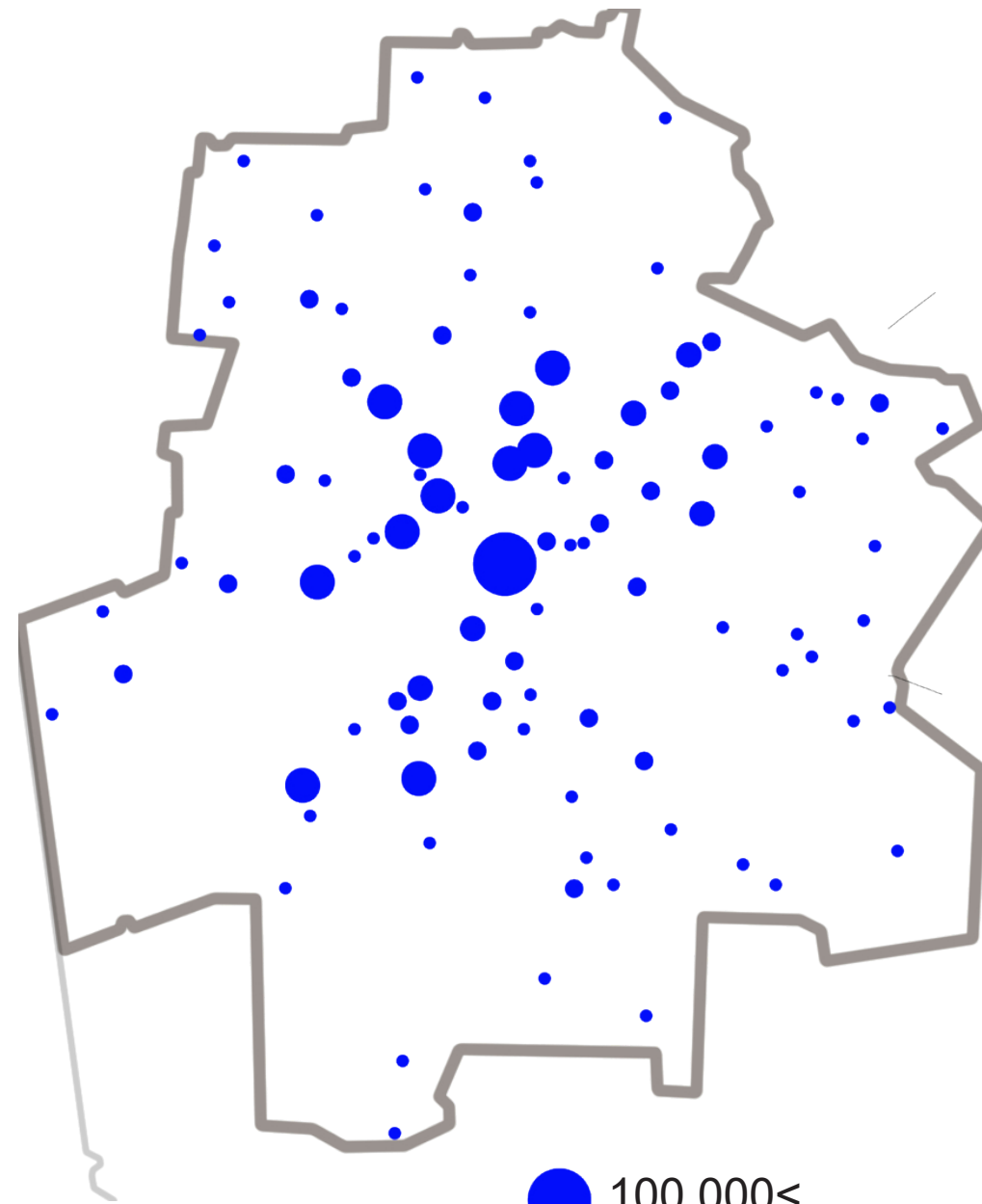


Highways

Metro Atlanta Diagrams

Metro Atlanta Population:

Metro Atlanta is divided into 30 counties. Fulton county has a population of 996,319. Gwinnett county has a population of 887,922. Cobb county has a population of 730,981. DeKalb county 722,161. Clayton county has a population of 267,542. Cherokee county has a population of 230,985. Henry county has a population of 213,869. Forsyth county has a population of 204,302. Hall county has a population of 190,761. Paulding county has a population of 148,987. Douglas county has a population of 138,776. Coweta county has a population of 135,571. Carroll county has a population of 114,093. Fayette county has a population of 109,664. Bartow county has a population of 101,736. Newton county has a population of 99,958. Rockdale county has a population of 85,215. Walton county has a population of 83,768. Barrow county has a population of 69,367. Spalding county has a population of 64,073. Pickens county has a population of 30,488. Haralson county has a population of 28,718. Butts county has a population of 23,759. Meriwether county has a population of 22,748. Dawson county has a population of 21,484. Morgan county has a population of 17,868. Pike county has a population of 17,204. Lamar county has a population of 16,961. Jasper county has a population of 13,660. Heard county has a population of 11,387.



Metro Atlanta Population

Atlanta

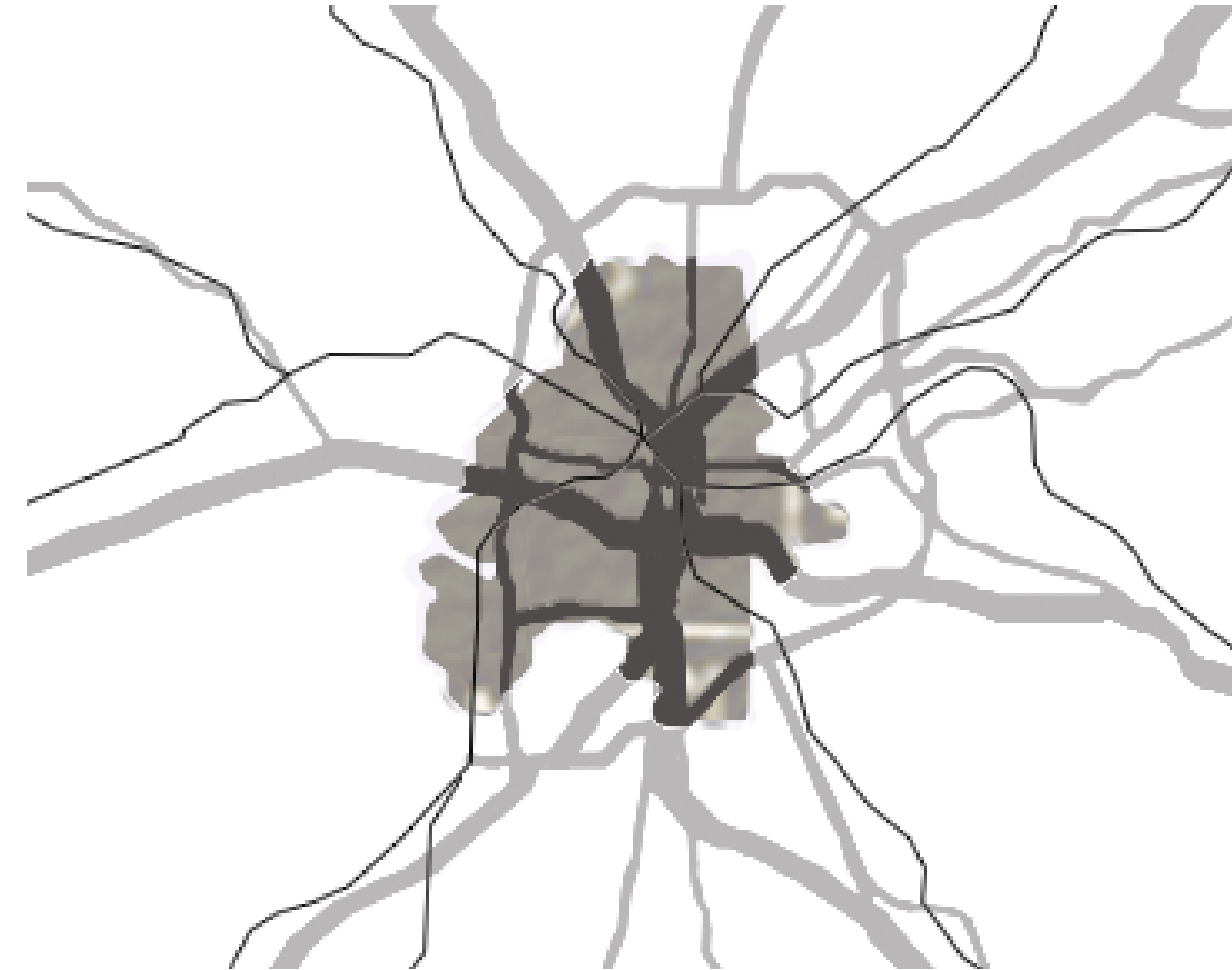
Atlanta:

City Area in Square Miles: 134 square miles

Population: 463,878

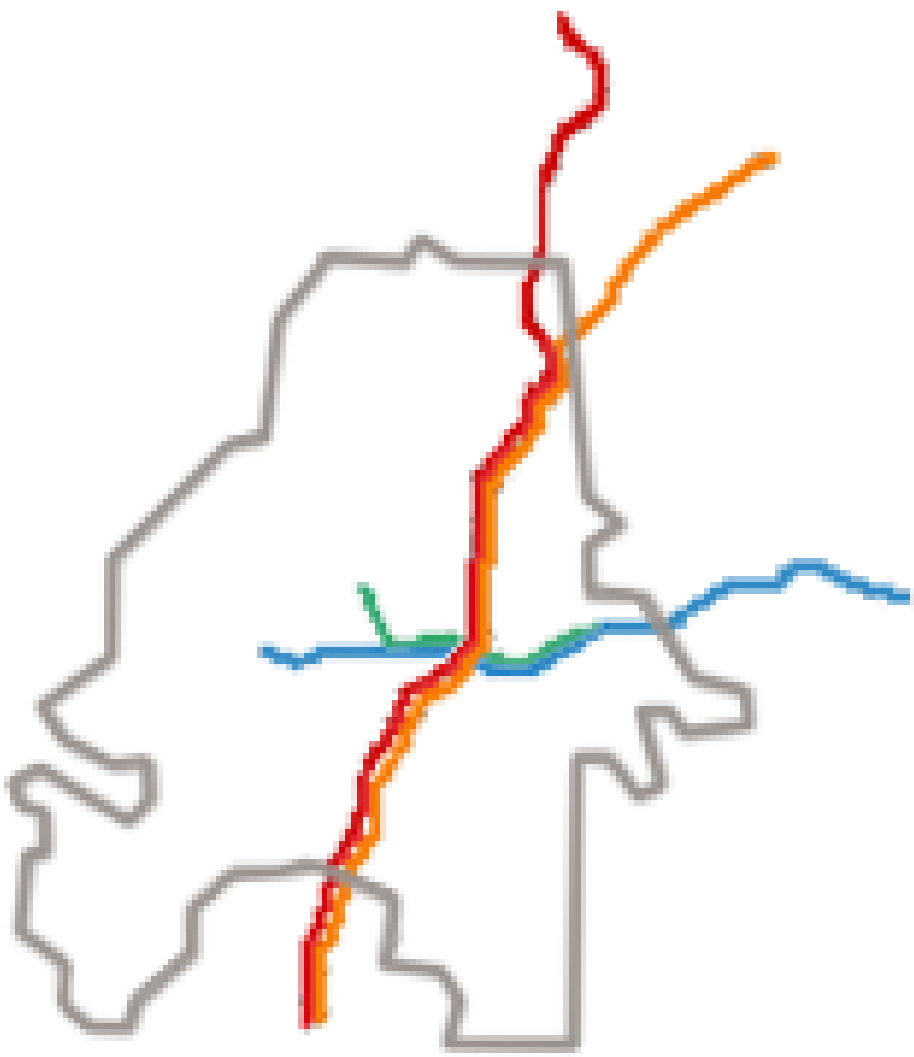
Number of Highways: 6

Highway Miles: 40

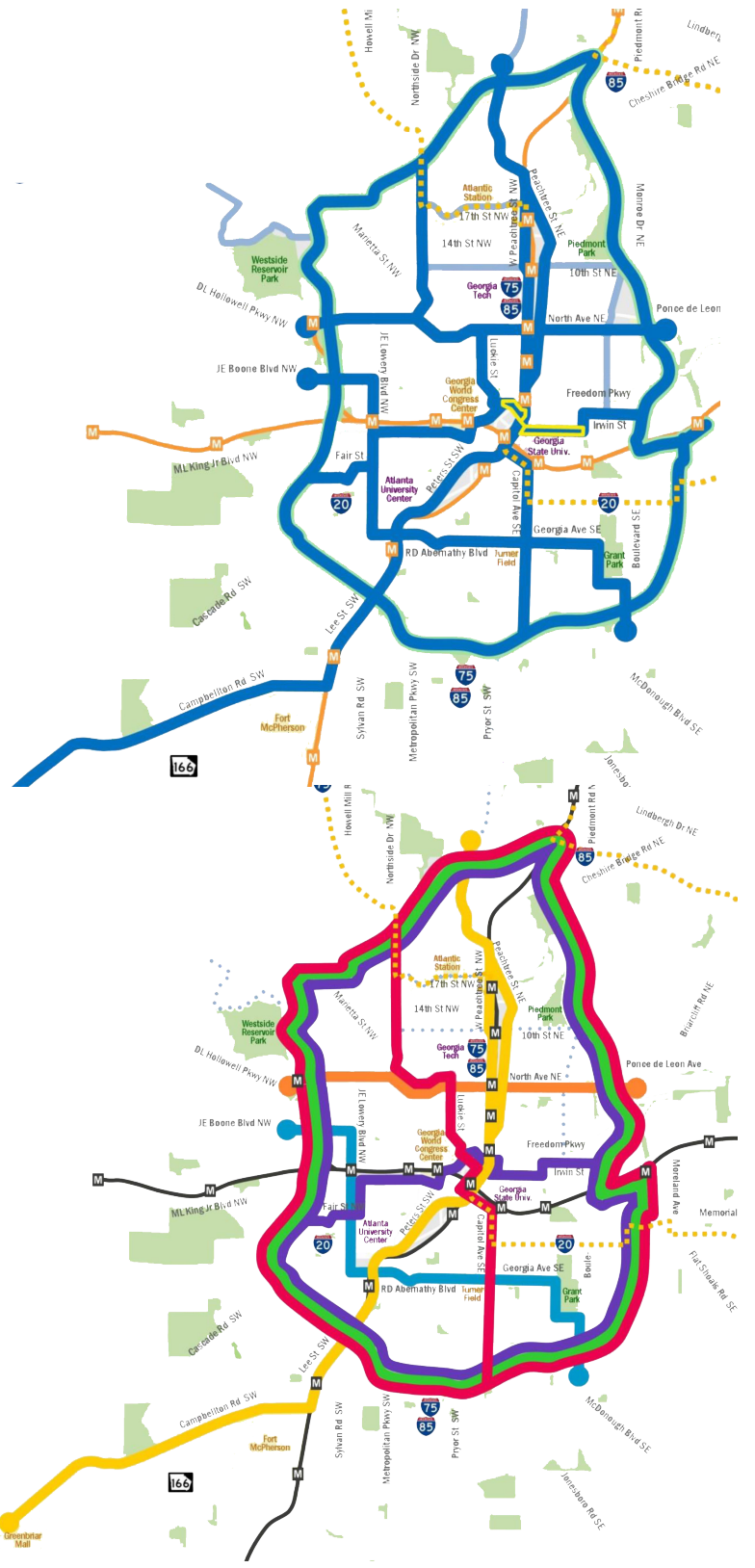


Atlanta Map

Atlanta Diagrams



MARTA's Rail



Streetcar Proposal

Public Transportation in Atlanta:

Currently MARTA has 4 lines extending North-South and East-West. The future plans include an expansion of MARTA's system through the introduction of the streetcar transit throughout the city and around the beltline. The streetcar system being introduced in Atlanta. The beltline is a 22 mile loop encircling the core of Atlanta. This project sees to connect the neighborhoods that have been divided due to the old rail line no longer used. The beltline project plans to have a light rail transit line following along the 22 miles of trails and parks. Atlanta is also receiving a light rail system following along the roads throughout downtown Atlanta. Since the streetcar project was proposed in 2012, one line has been open thus far. The East West route is a 2.7 mile route that extends from Martin Luther King Jr. Historic District to Centennial Olympic park. In the future, the streetcar system will run a total of 53 miles, with the largest component of the streetcar system being the beltline light rail. The plan for the streetcar system is focused on the interior of the beltline, with small extensions outside the perimeter to reach marta stations.

Atlanta Diagrams

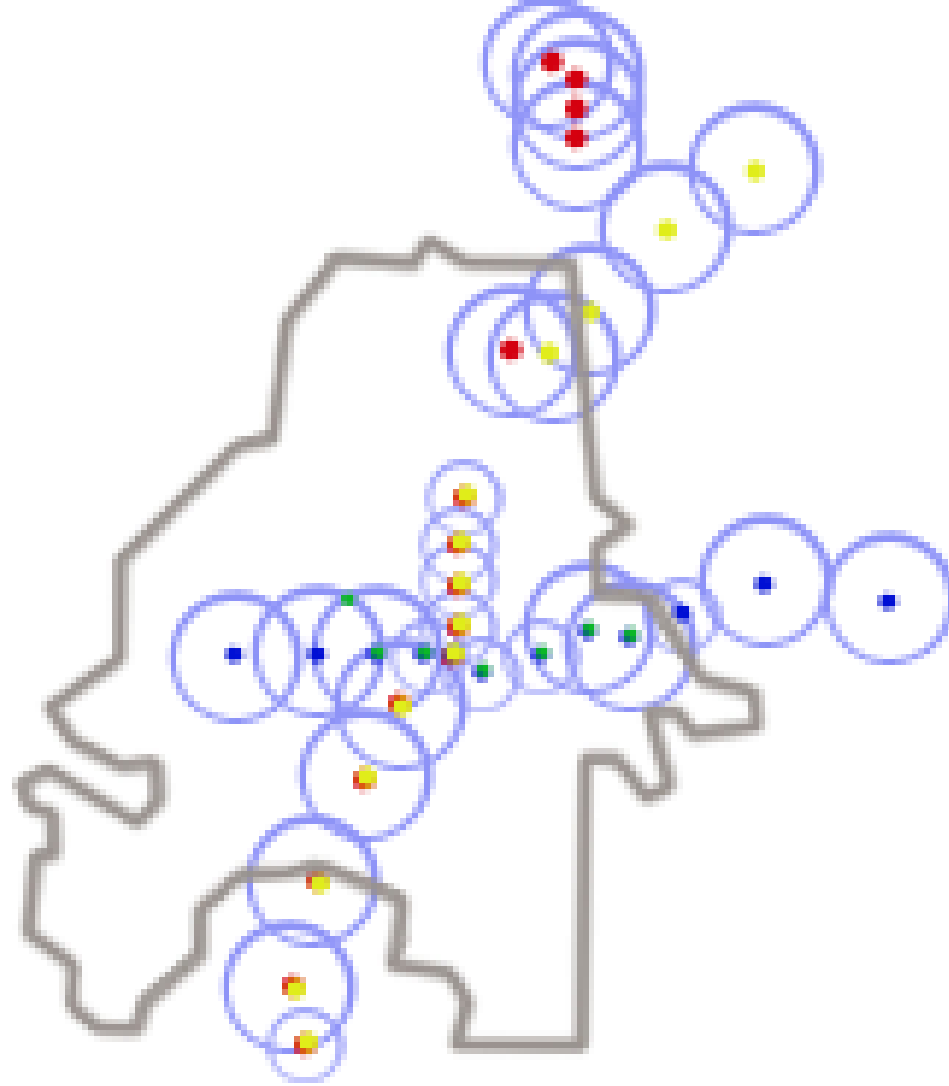
Atlanta a divided city:



Divided City

Interstates 75 and 85 merge together within Atlanta's city limits and become one large interstate for 8 miles. In this merging of the interstates, also known as the Downtown Connector, the highway grows from 4 lanes to 7 lanes in each direction, making the connector atleast 160 feet wide. The Downtown Connector provides direct acces into the center of the city. Over 300,000 vehicles drive on the Downtown connector each day. With the over use of the downtown connector, the connector not only experiences traffic during rush hours, but also throughout the day. The Georgia DOT is studying the connector in order to alleviate the traffic congestion, making the connector more efficient. Other studies are being performed to hide or alleviate the divide the connector causes throughout Atlanta. The Downtown Connector starts at midtown and ends at the airport nearly dividing Atlanta in half. This large intersection makes connection difficult for both cars and people alike. Atlanta is connected over the interstate by bridges allowing roads continue overhead. This allows roads and cars to over over the interstate with ease, however these bridges are designed with the car in mind making it difficult or unpleasant for people to cross over the interstate. Studies are being performed to either cap or create more pedestrian friendly connections over the connector.

Atlanta Diagrams



Accessibility of MARTA

Walkability of MARTA:

MARTA's stations are either Urban (without park and ride) or Suburban (with park and ride) stations. The suburban stations are generally the stations closer to interstate 285. The distance between the suburban stations are approximately 2 miles apart, making walking difficult but driving easy. The urban stations are generally located within the city limits in denser parts of the city. MARTA's urban stations are seperated by atleast .8 miles making walking between each station easier. This distance is slightly longer than preferred distance based on Transit Oriented Design. Transit Oriented Design (TOC) is a type of development including a mixture of housing, office, retail and/or other commercial development and amenities intregrated into a walkable neighborhood and located within a half-mile of quality public transportation. By connecting people and amenities through access to public transit, TOC reduces car dependency and reduces air pollution. Currently the MARTA rail system falls short of a Transit Oriented Design.

Cobb County Diagrams



Cobb County Diagrams

Cities of Cobb County:

The larger cities in Cobb County are Symrna, Marietta, Kennesaw, Acworth, Austell and Powder Springs. These cities are larger than the other cities and towns in Cobb county because of their location. Acworth, Kennesaw, and Marietta are located near Interstate 75. Smyrna is located at the intersection of Interstate 75 and Interstate 285. Austell and Powder Springs are located near Interstate 20. Because the cities are located near the highway system, they are more easily connected to the rest of Metro Atlanta, in comparison to towns like Dallas, Mableton, and other towns not in close proximity to the highway system.

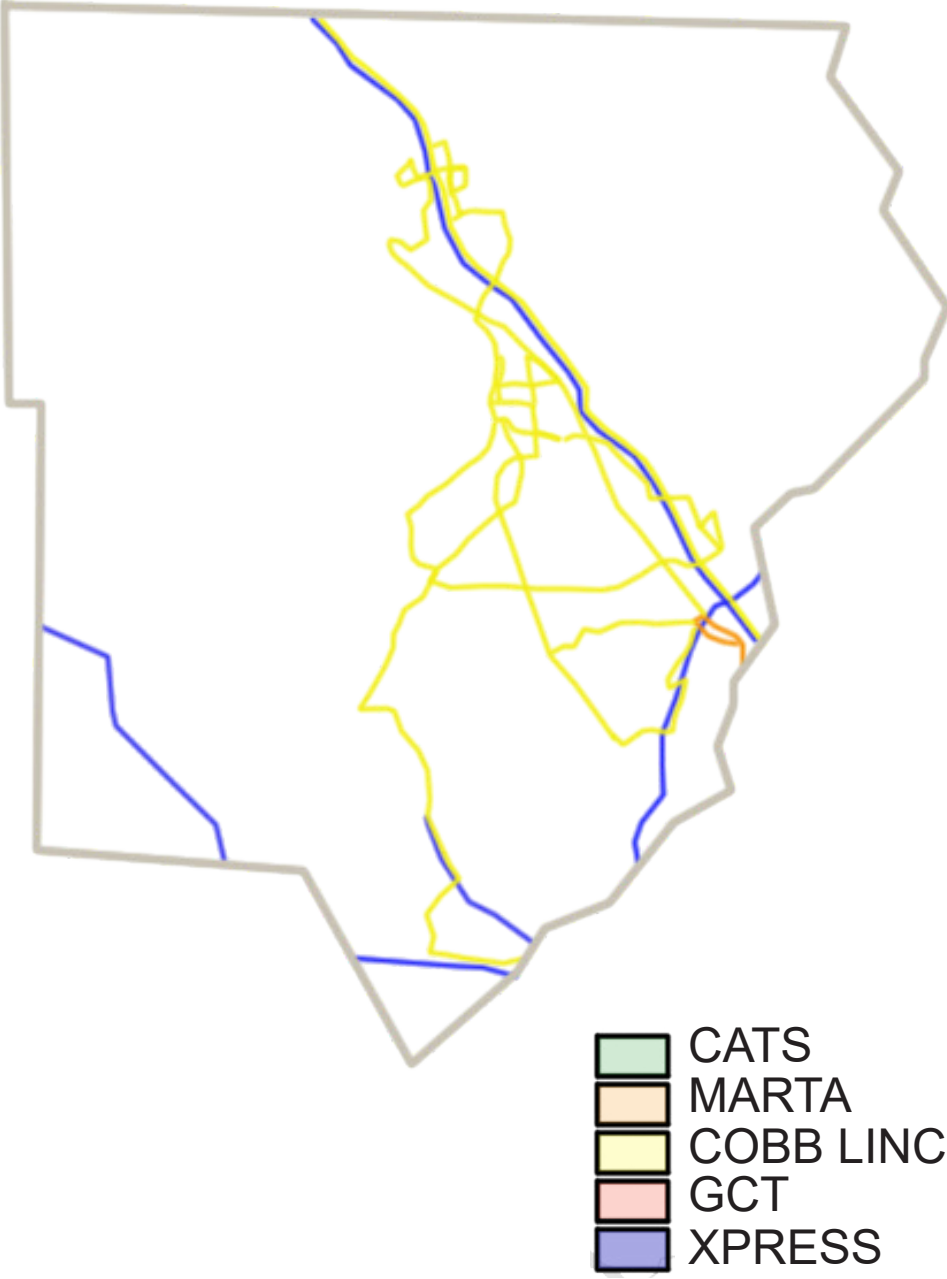


Cities

Cobb County Diagrams

Public Transportation of Cobb County:

The bus routes that travel through Cobb County consist of Cobb Counties Linc, MARTA and Xpress. Cobb County linc connects the cities within Cobb County. MARTA connects a stop in Symrna to Midtown Atlanta. Express connects Cobb County to surrounding counties via the Primary road system in Metro Atlanta.

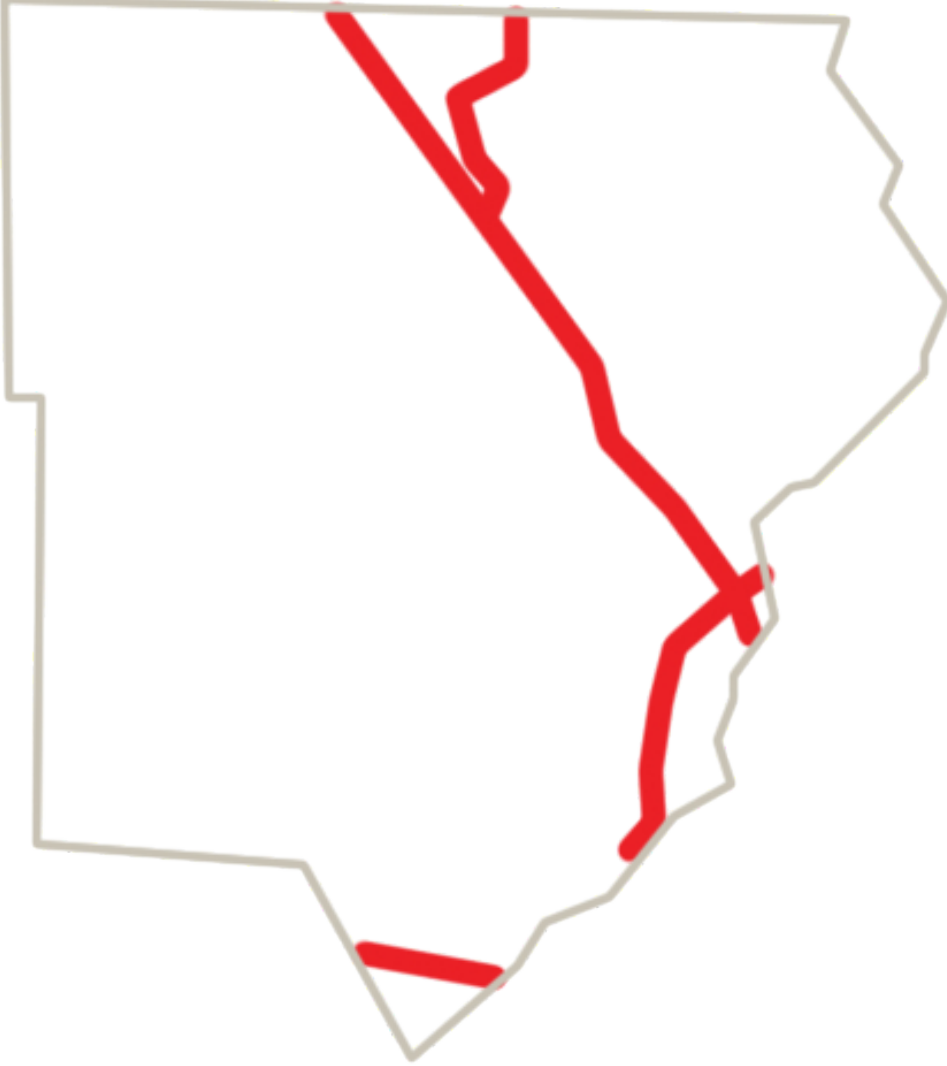


Public Transportation

Cobb County Diagrams

Infrastructure of Cobb County:

The highway structure in Cobb County include Interstate 75, Interstate 575, Interstate 285 and Interstate 20. Interstate 75 has fourteen exits throughout Cobb County; five exits in Symrna, five exits in Marietta, and five exits in Kennesaw. Interstate 575 starts in Cobb County in Kennesaw and has three exits before it enters Cherokee County. Interstate 285 has five exits in Symrna. Interstate 20 only has two exits in cobb county, one in Austell/ Powdeer Springs and one in Mableton. The highway system connects several Cobb County cities with the rest of Metro Atlanta.

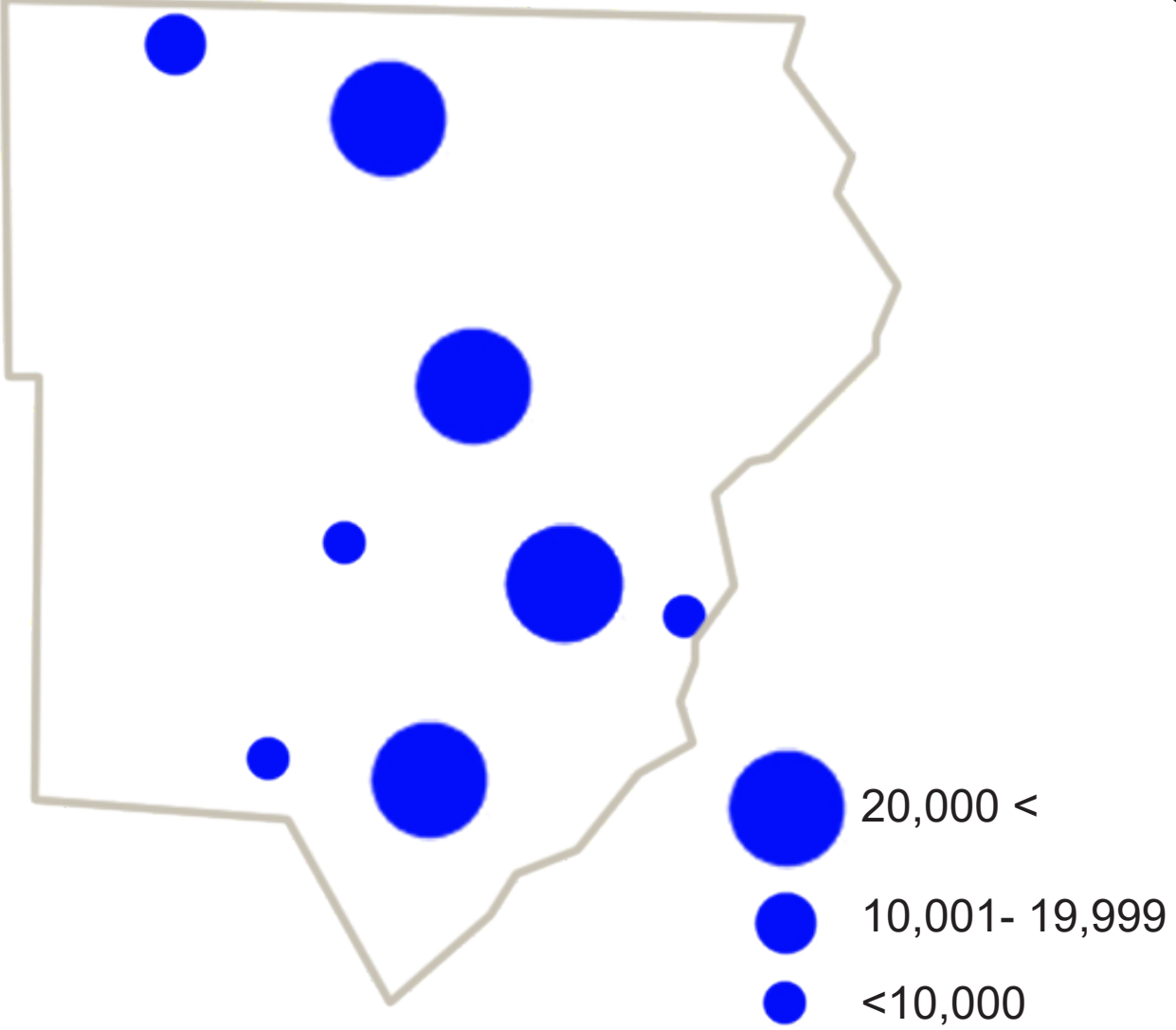


Highways

Cobb County Diagrams

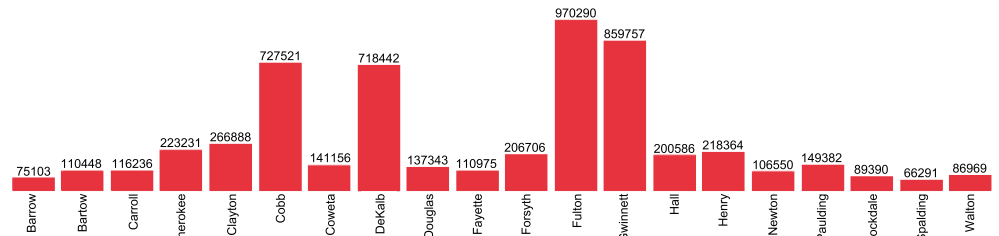
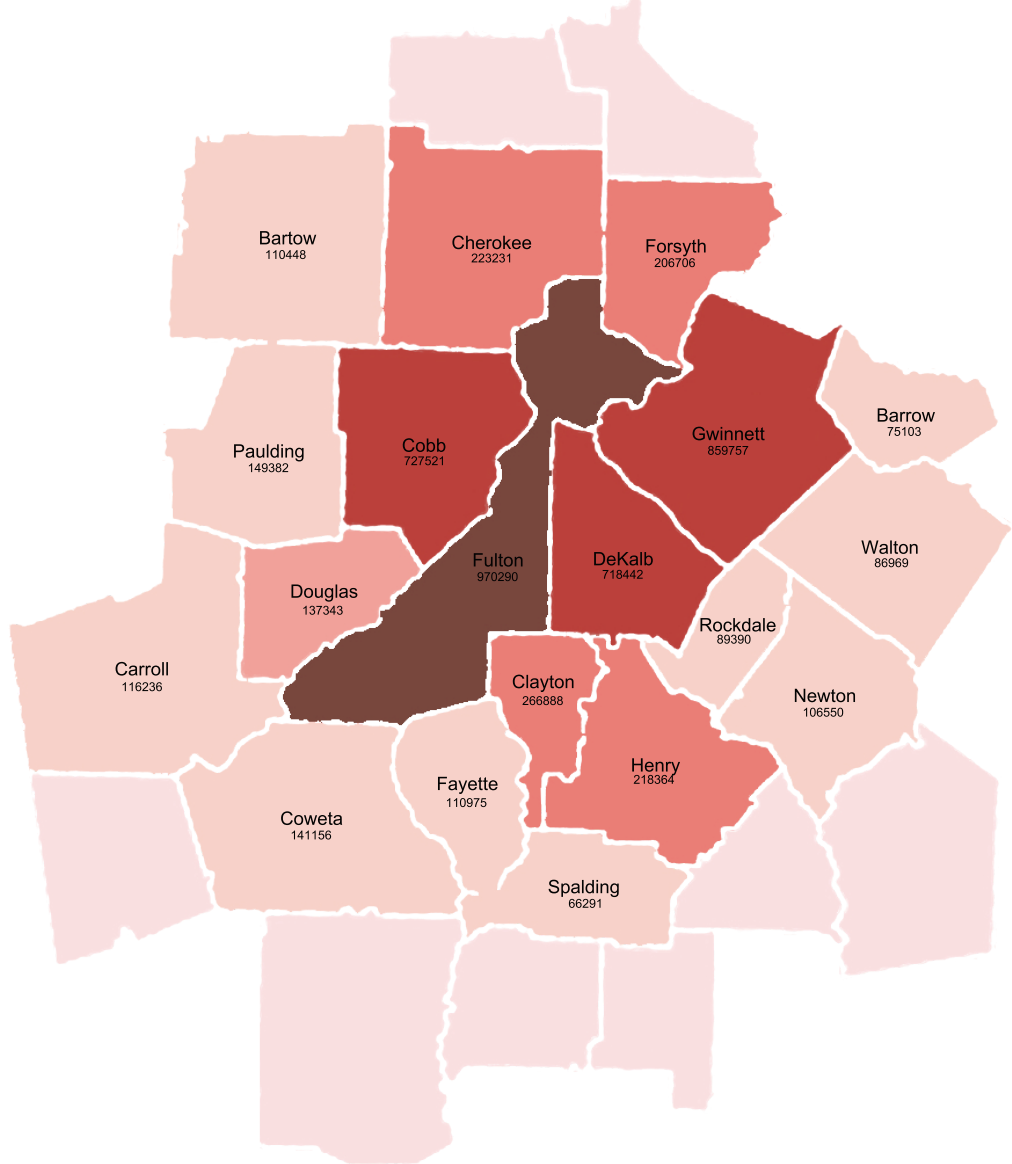
Population of Cobb County:

The larger cities in Cobb County are Smyrna, Marietta, Kennesaw, Acworth, Austell and Powder Springs. Of the cities in Cobb county, Marietta has the largest population of 59,000. Smyrna has the second largest population of the county with a population of 56,000 people. Kennesaw has the third largest population with a population of 33,000.

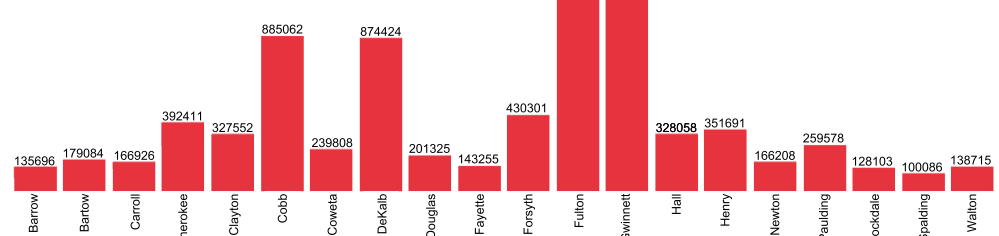
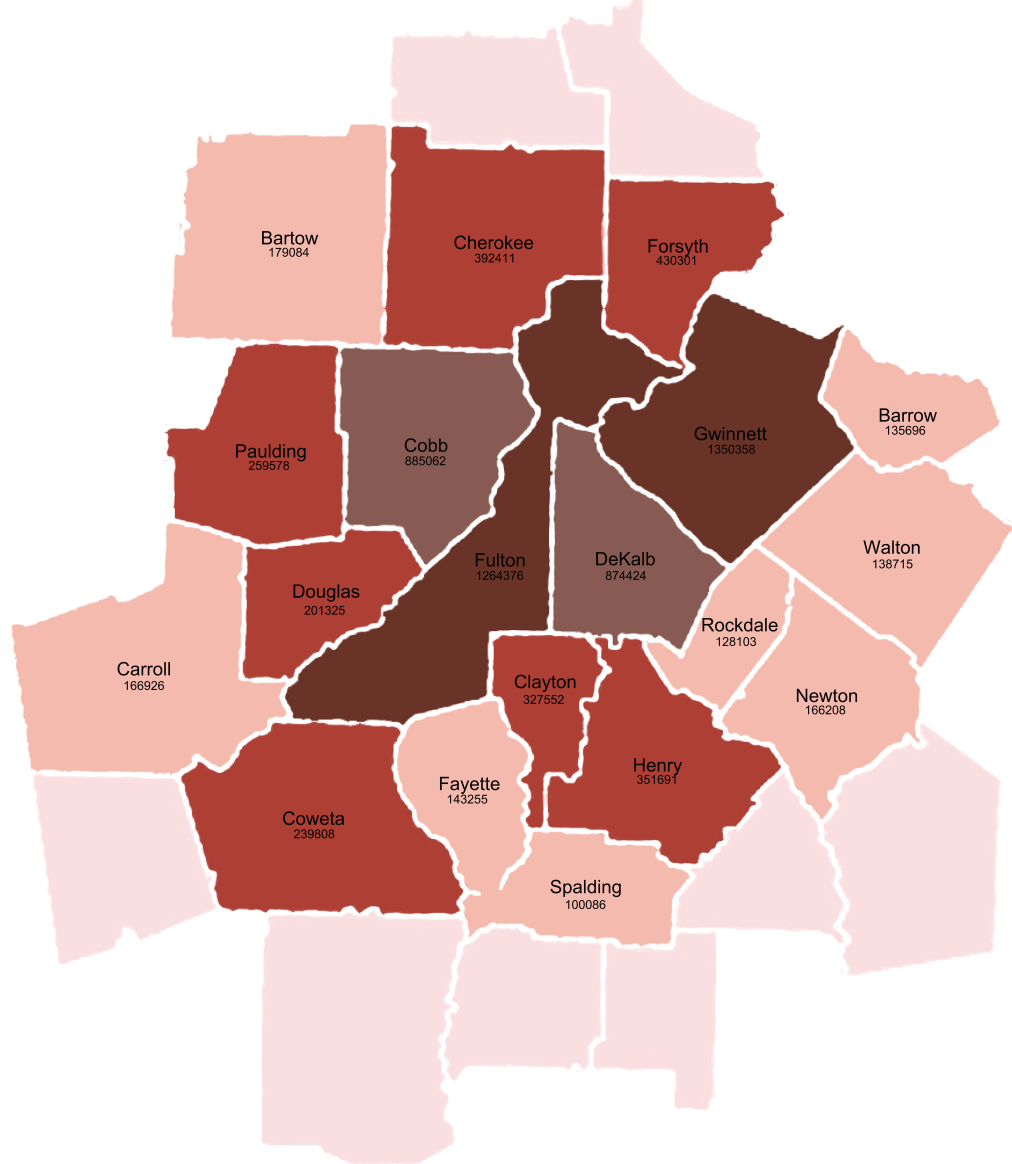


Population

Metro Atlanta Analysis



2015

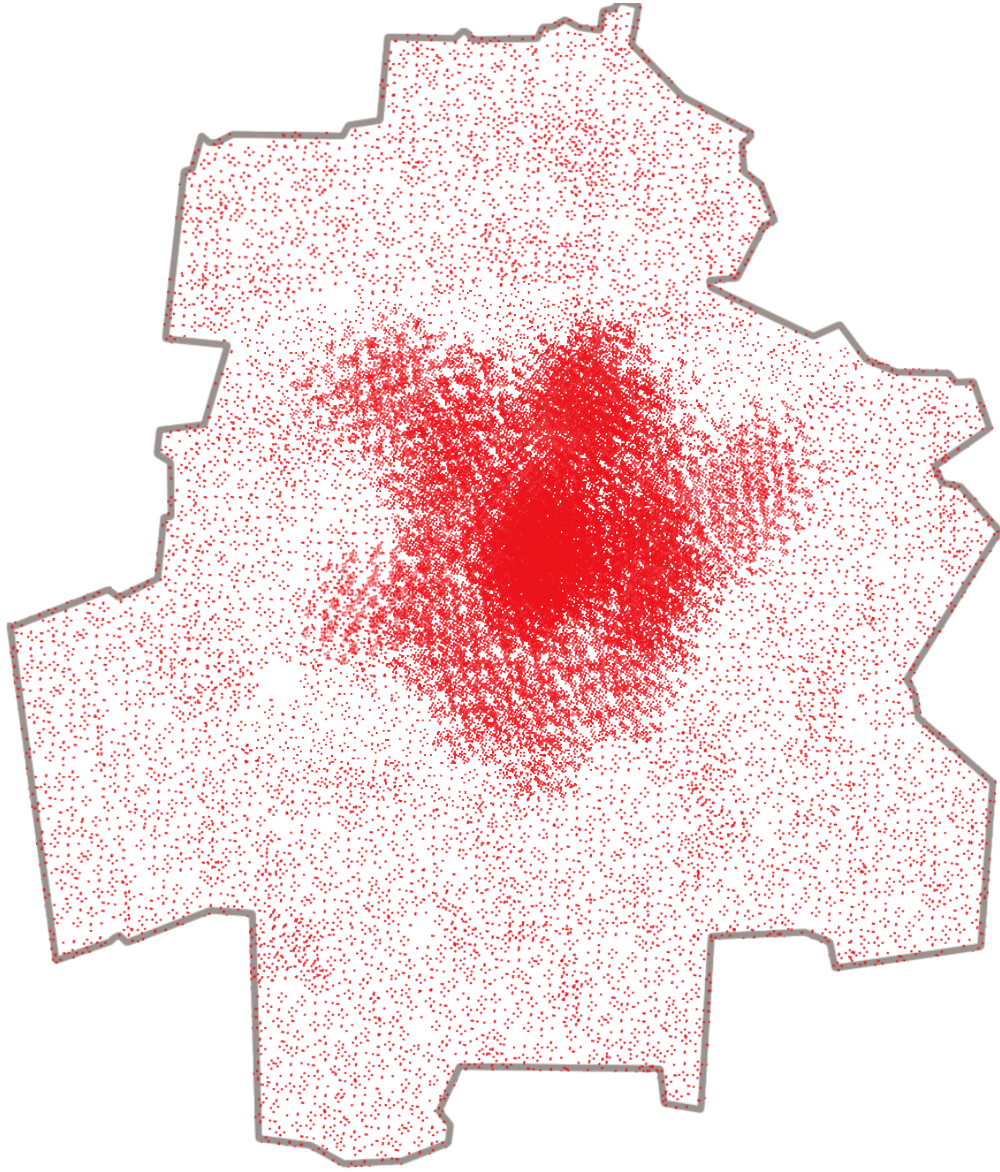


2040

Live

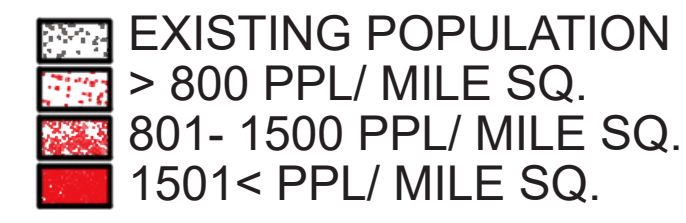
Metro Atlanta 2015:

Currently in Metro Atlanta, the majority of the population resides in Fulton county, in Dekalb county, in Cobb county, and in Gwinnett county. The most dense cities in Metro Atlanta include: Atlanta, Alpharetta, Roswell, Sandy Springs, Symrna, Marietta, and Kennesaw.

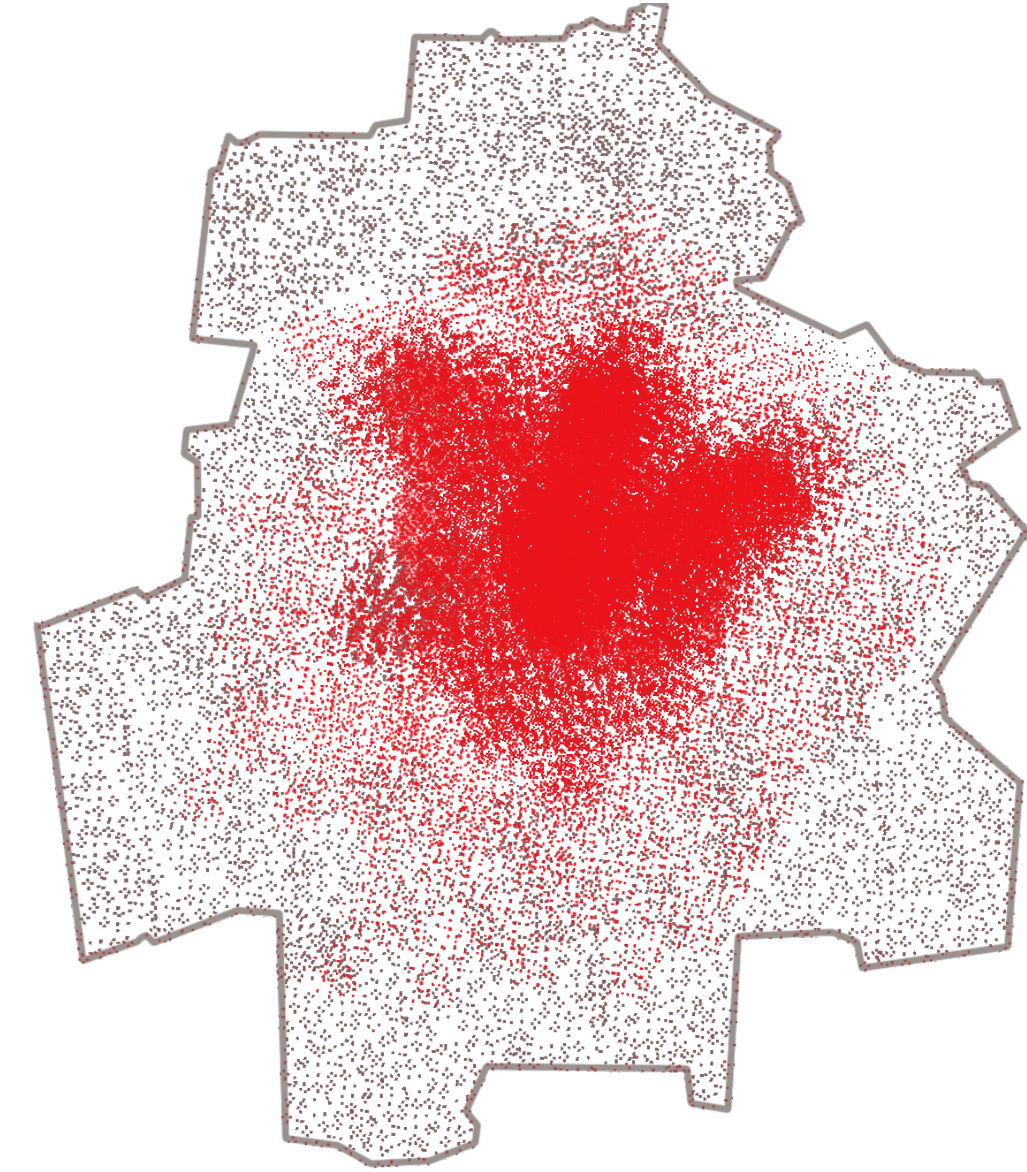


Metro Atlanta 2040:

Most of Metro Atlanta's population will increase, however Gwinnett County, Cobb County, Fulton County and Dekalb County will increase more rapidly than the surrounding counties.



2015

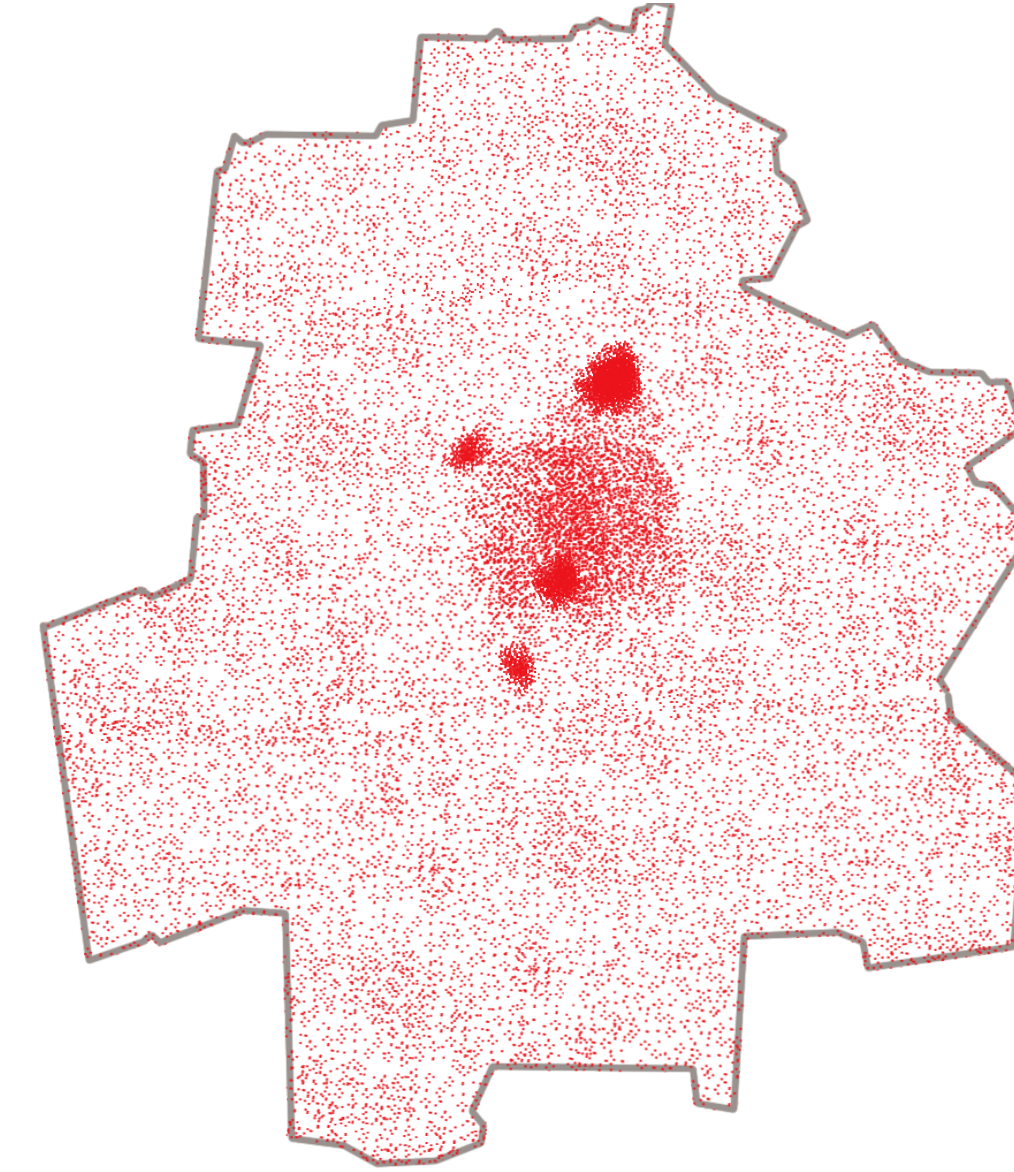


2040

Work

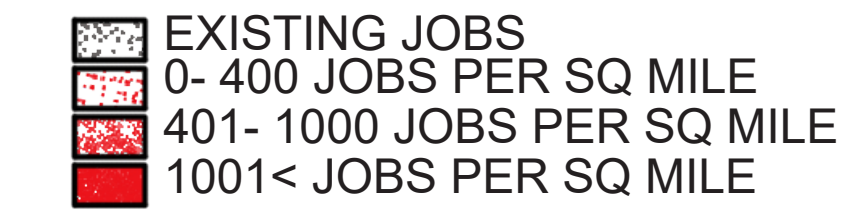
Metro Atlanta 2015:

Currently in Metro Atlanta, the majority of work opportunities reside in Atlanta, Marietta, and Alpharetta.

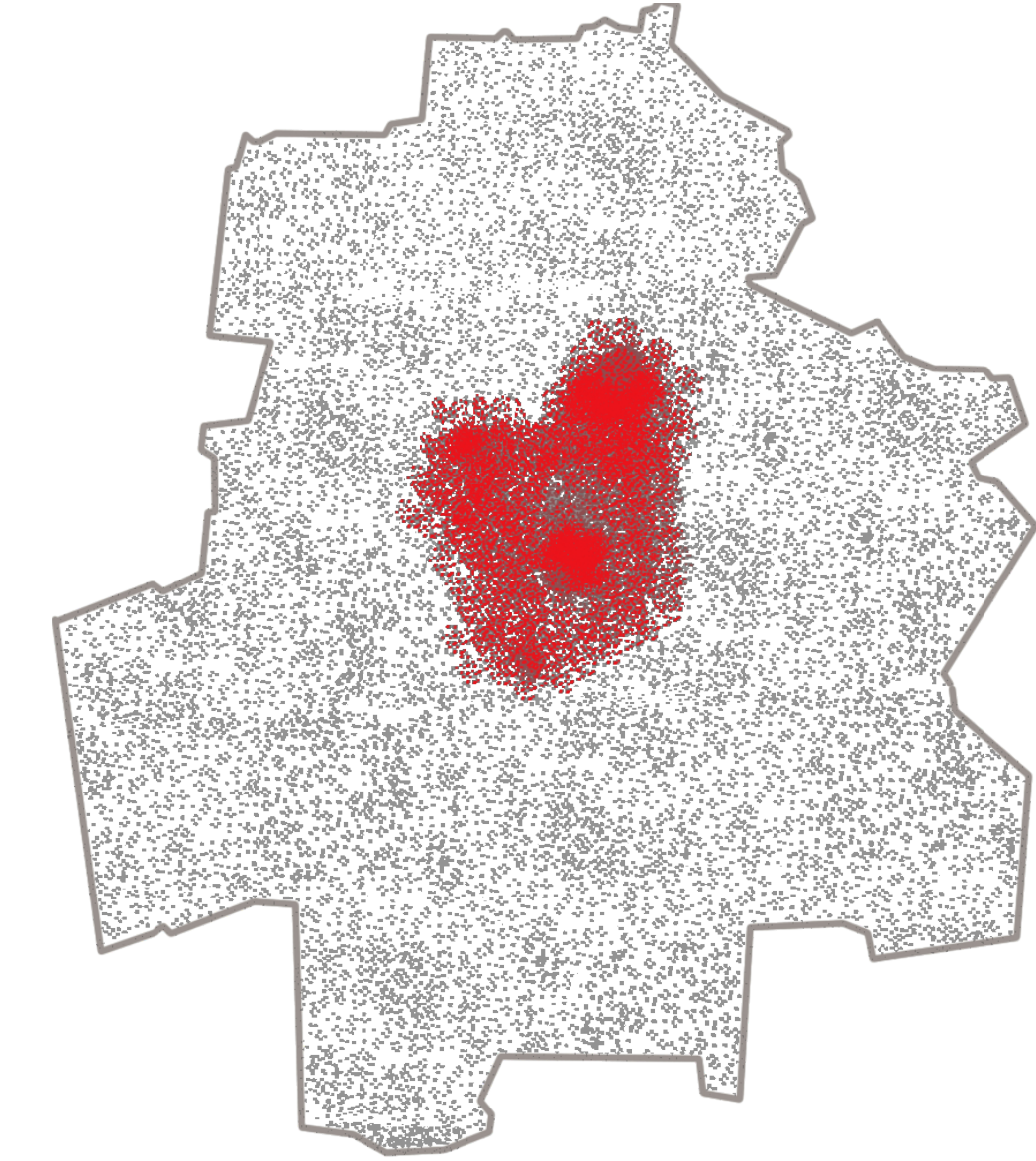


Metro Atlanta 2040:

Work Opportunities are expected to grow in Cobb County and in Fulton County.



2015

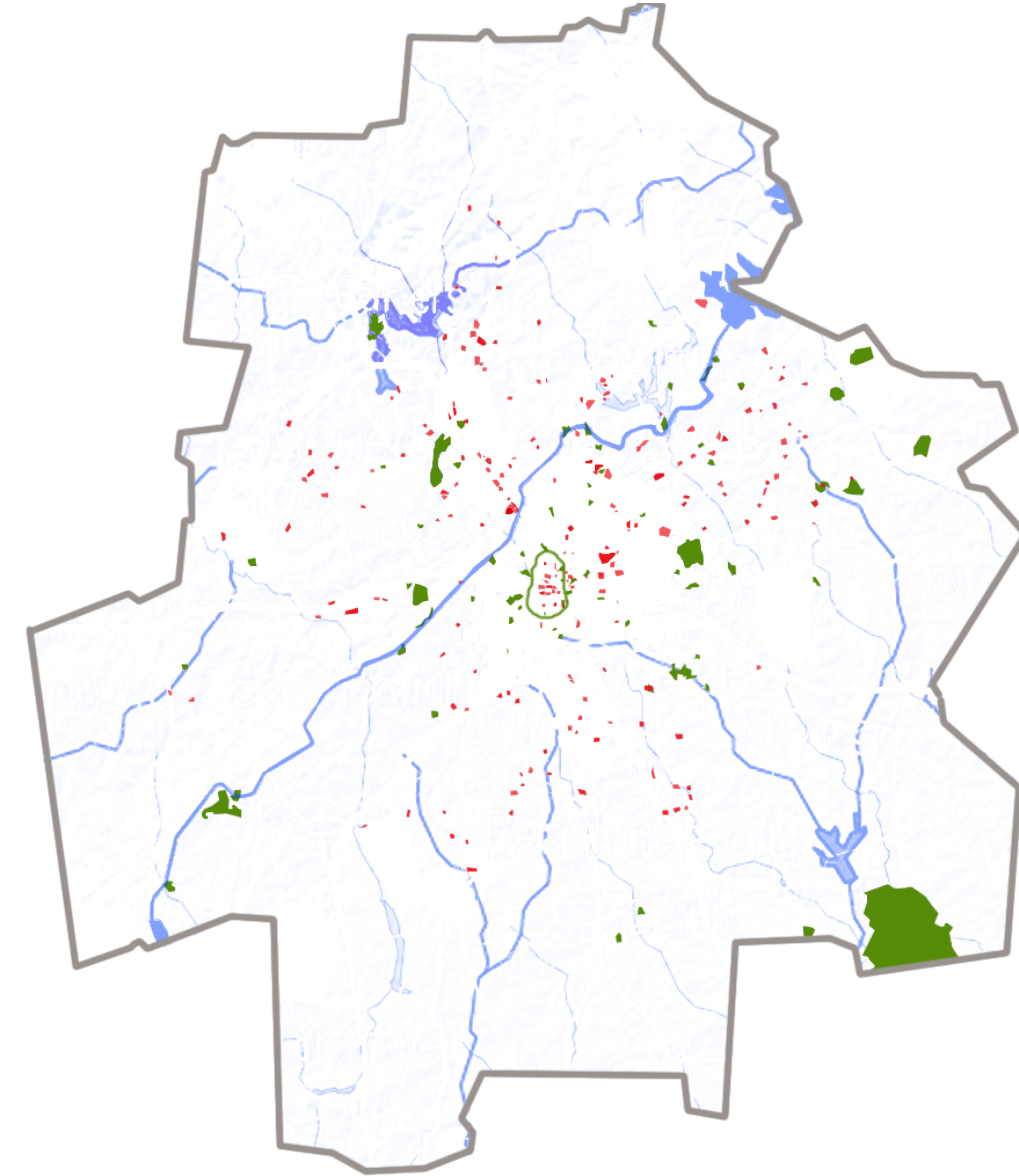


2040

Play

Metro Atlanta 2015:

The Play aspect of Metro Atlanta is evenly spread out with activities ranging from natural parks to malls and movie theaters.

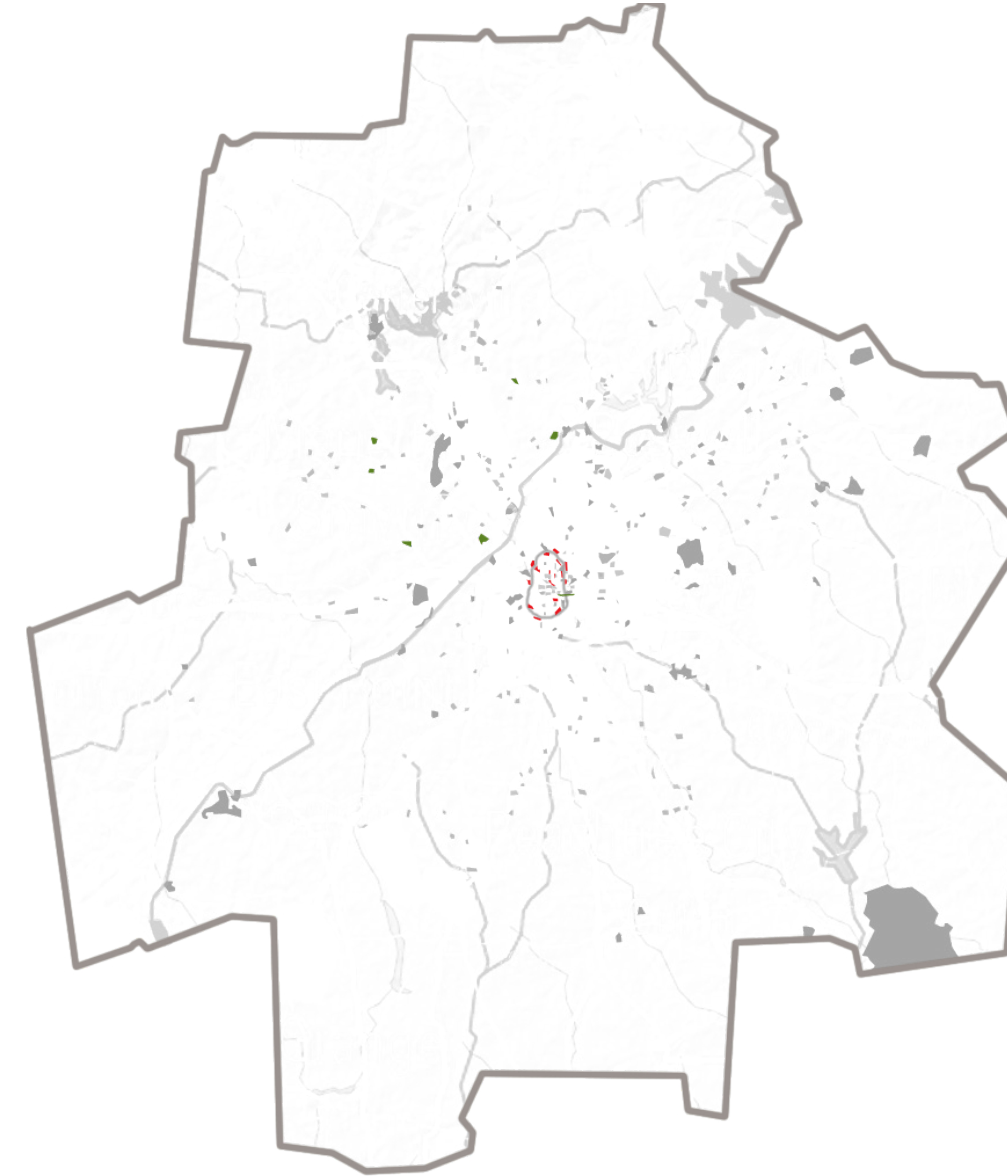


Metro Atlanta 2040:

The projected play of Metro Atlanta is focused within the 285 perimeter.

- EXISTING PLAY
- PARKS
- FAMILY ENTERTAINMENT
- LAKES AND RIVERS

2015

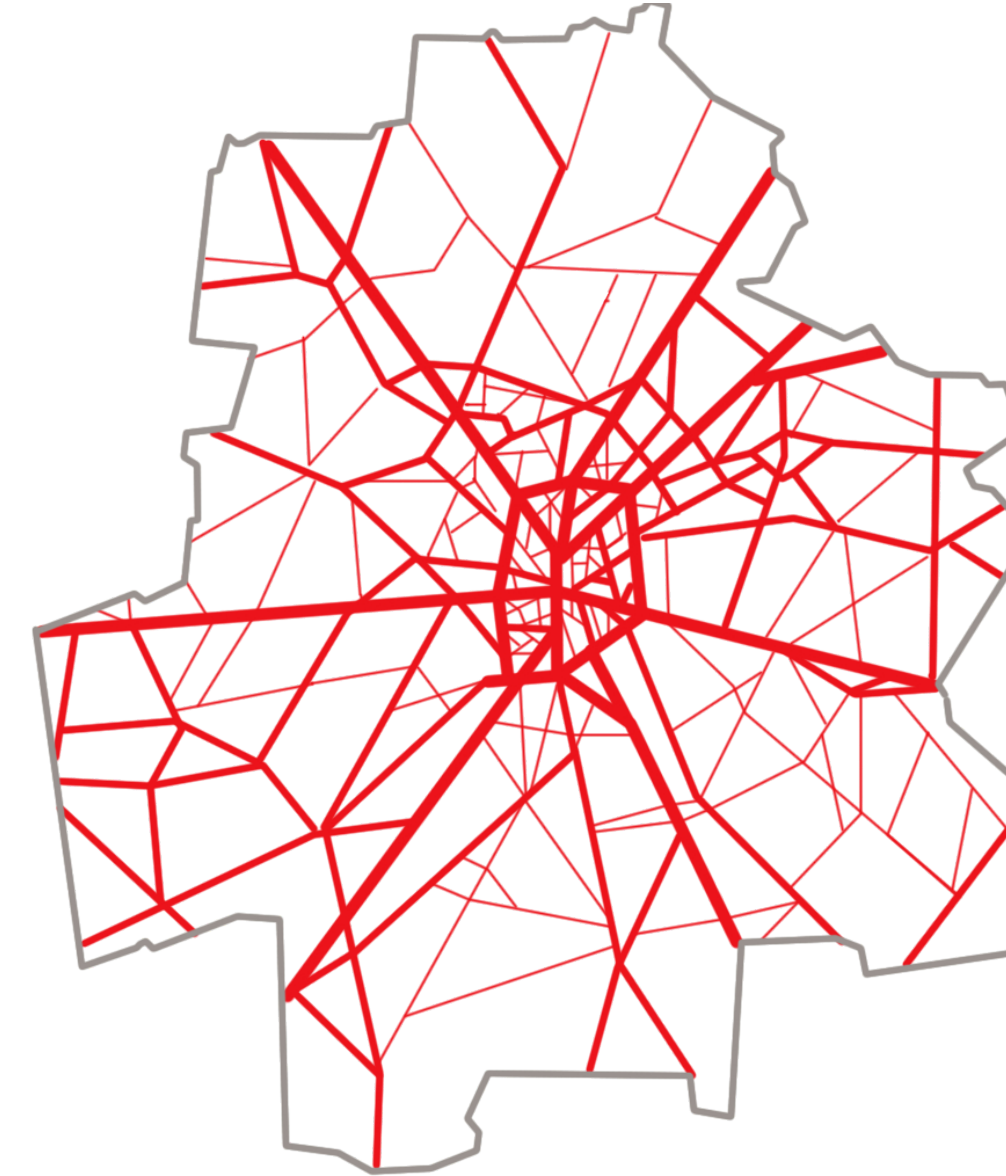


2040

Travel

Metro Atlanta 2015:

The Current travel system include Primary roads, Secondary roads, and Tertiary roads. The Primary roads are the highway systems that directly connect one city to another throughout metro atlanta. The Secondary roads are the roads that connect the Primary roads to the each city. The Tertiary roads are the back roads that are connected to the Secondary roads.

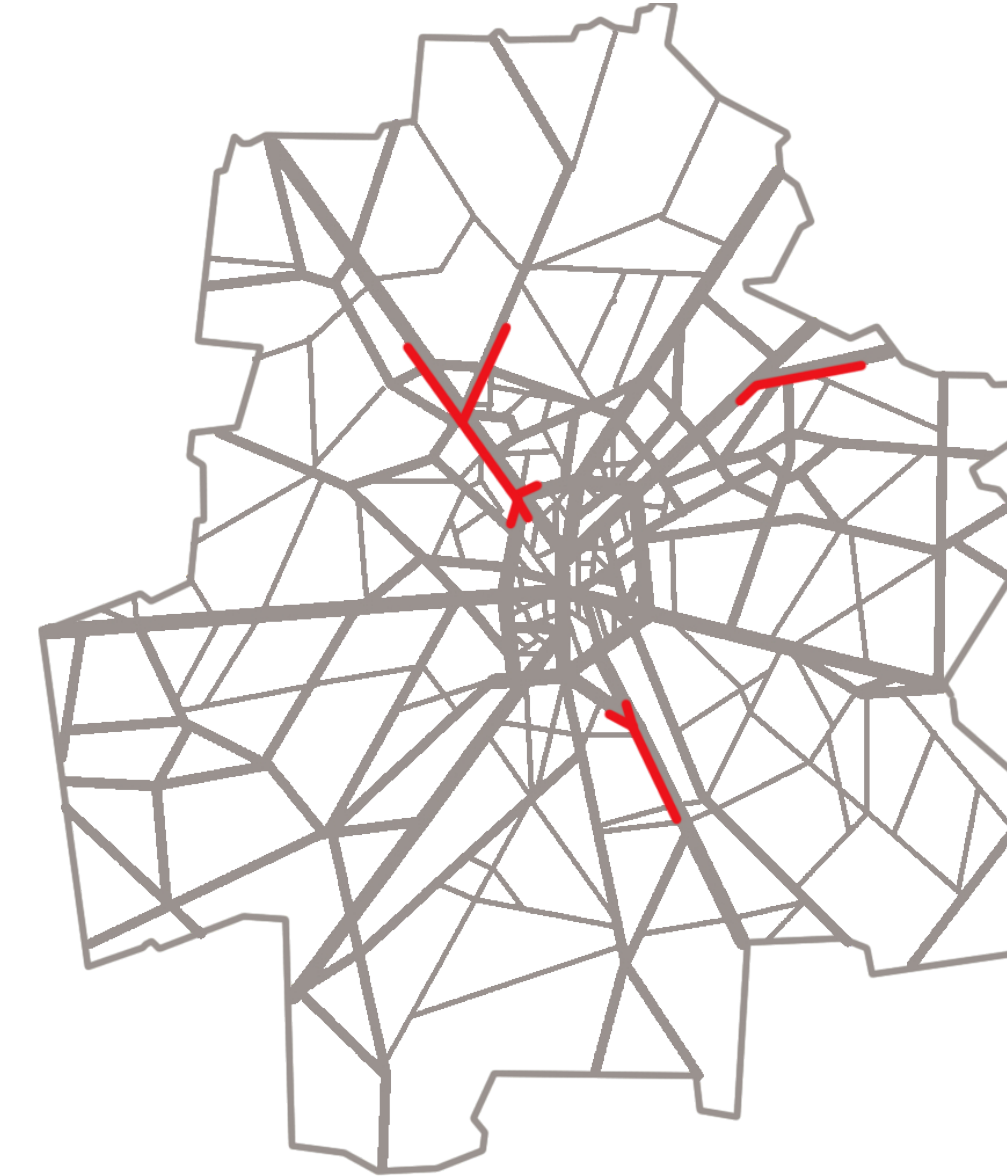


Metro Atlanta 2040:

No new primary roads are projected for the near future. The plans for alleviating traffic is to add more lanes to our current highways.

- EXISTING PRIMARY
- EXISTING SECONDARY
- EXISTING TERCERY
- PRIMARY
- SECONDARY
- TERCERY

2015



2040

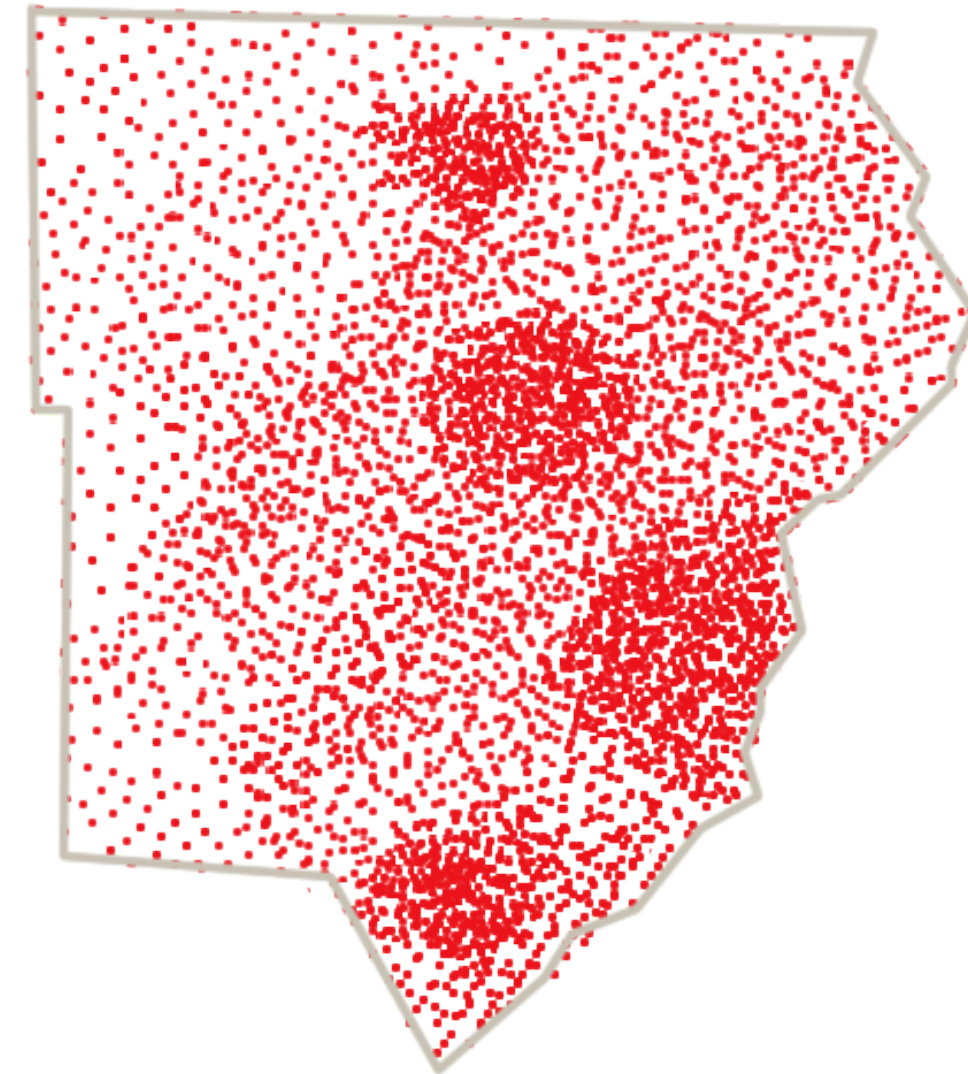
Live

Cobb County 2015:

Currently in Cobb County, the population resides in Symrna, Marietta, Kennesaw and Austell. These cities are conveniently located with easy access to the primary highway system, enabling a connection to Metro Atlanta.

Cobb County 2040:

Most of Cobb County will increase in population, however the cities with the easier access to the primary highway system will remain the most populated cities.



2015



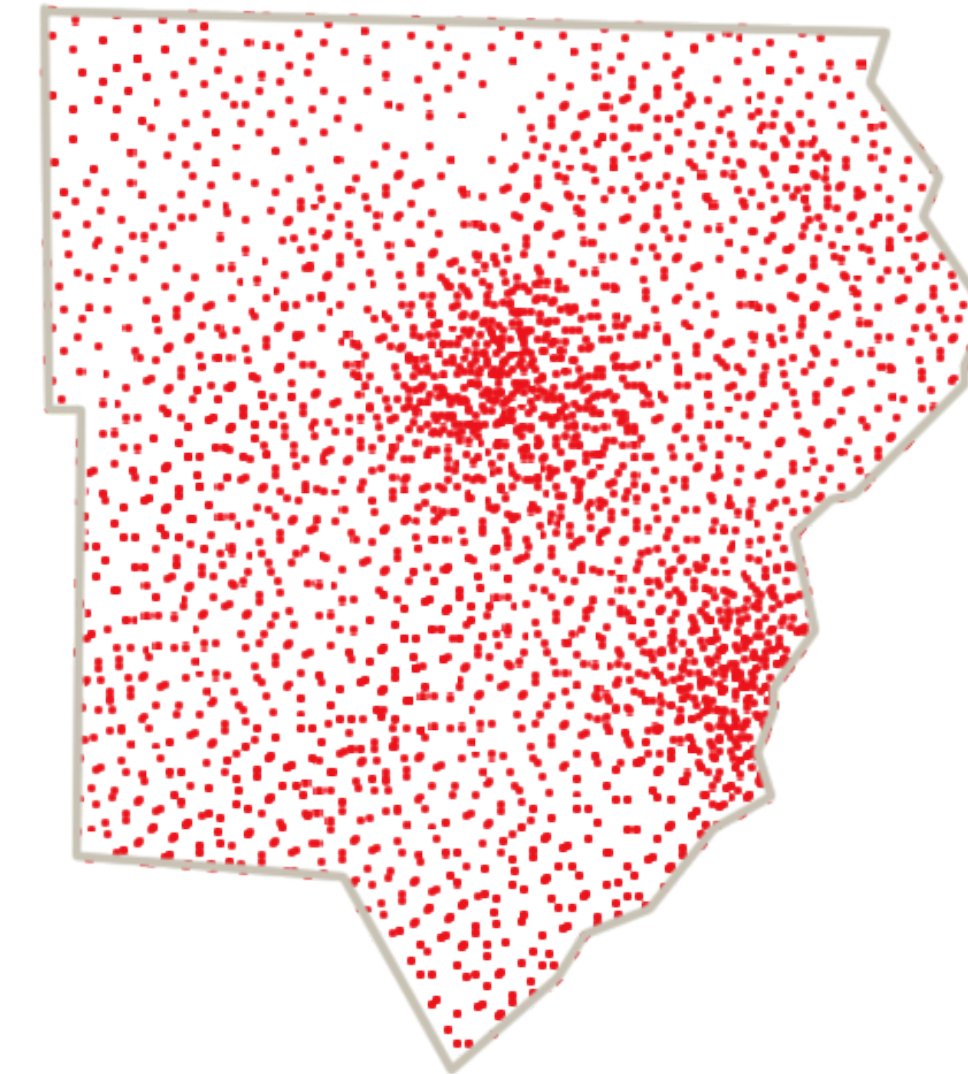
Work

Cobb County 2015:

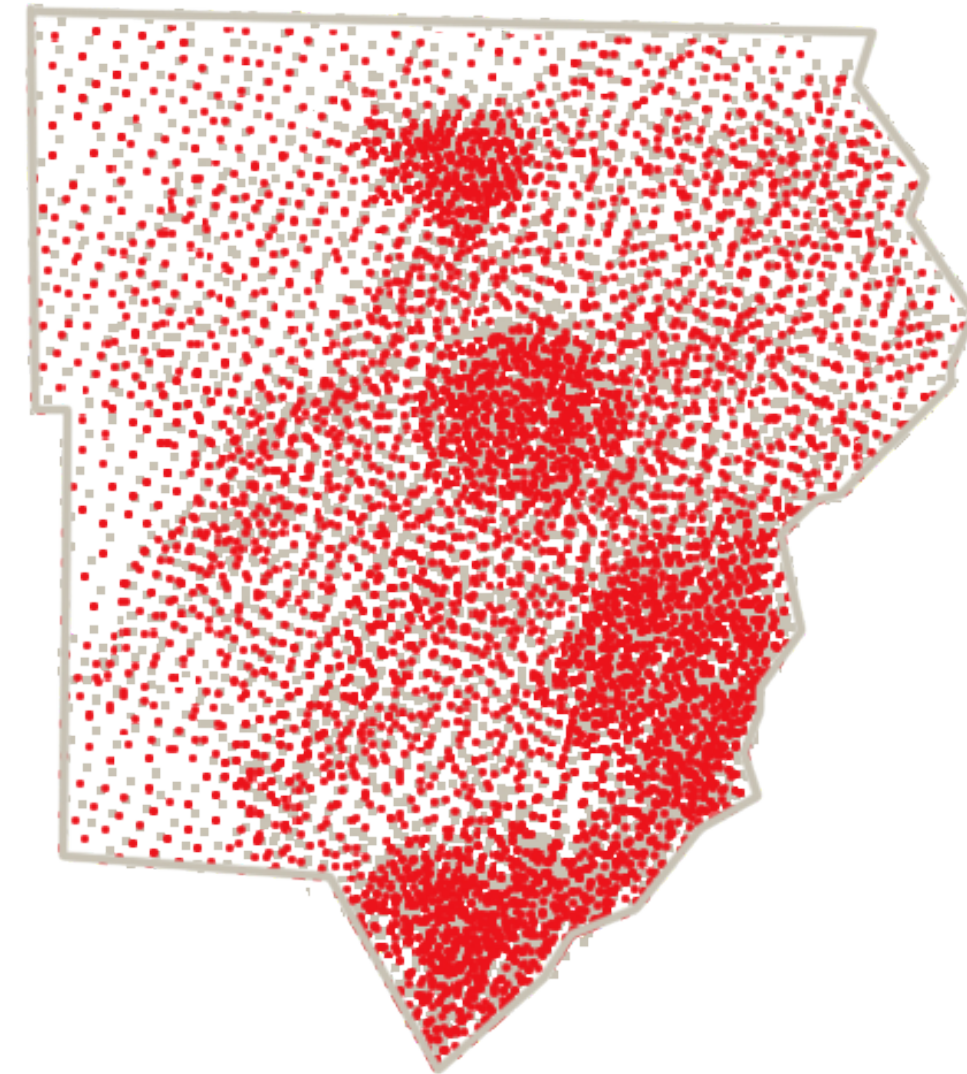
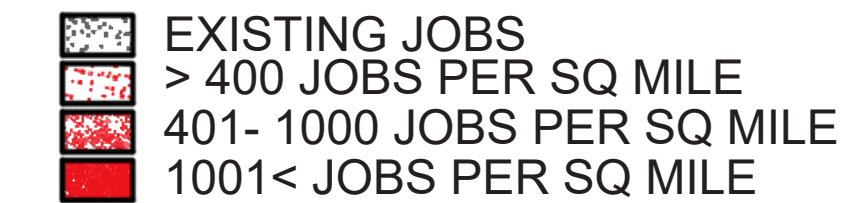
Currently in Cobb County, the majority of work opportunities reside in Symrna and Marietta.

Cobb County 2040:

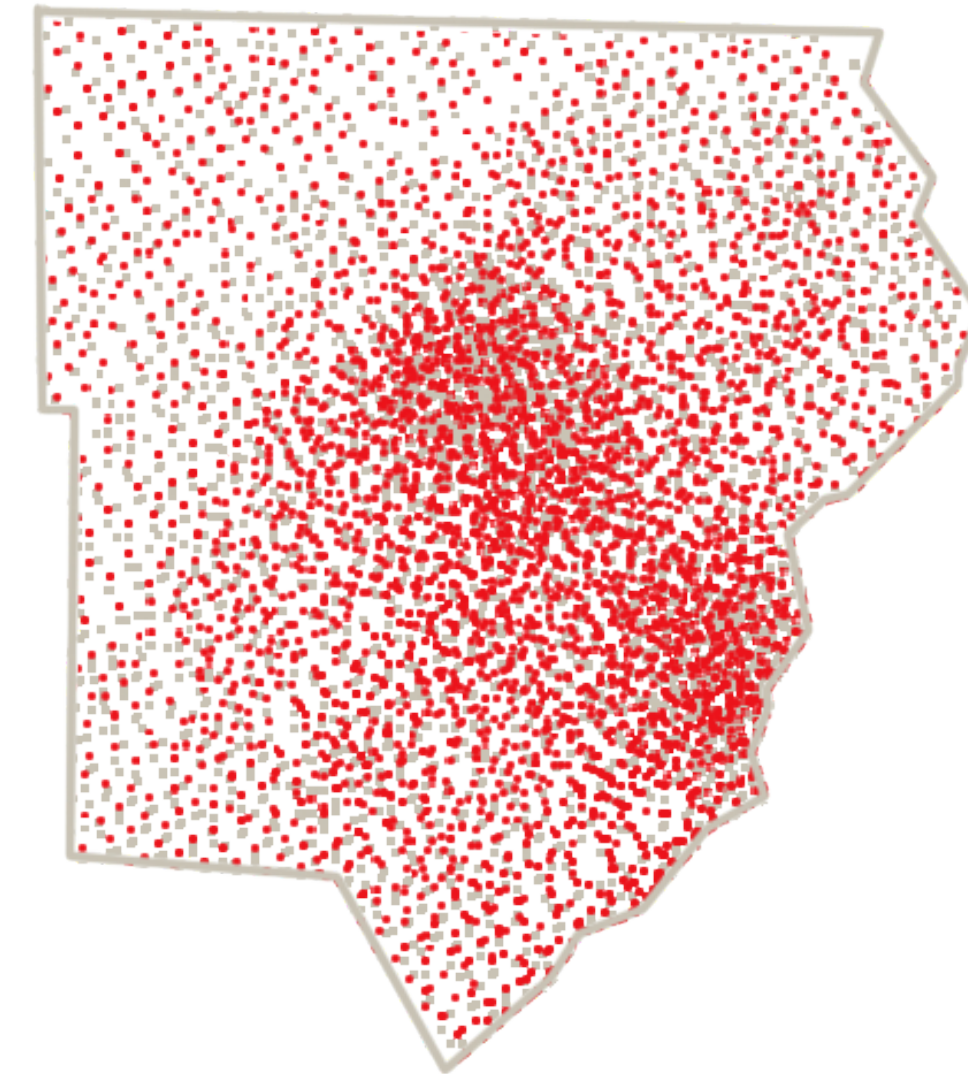
Work Opportunities are expected to grow in Cobb County, with more opportunities in Symrna, Marietta, and Kennesaw.



2015



2040



2040

Play

Cobb County 2015:

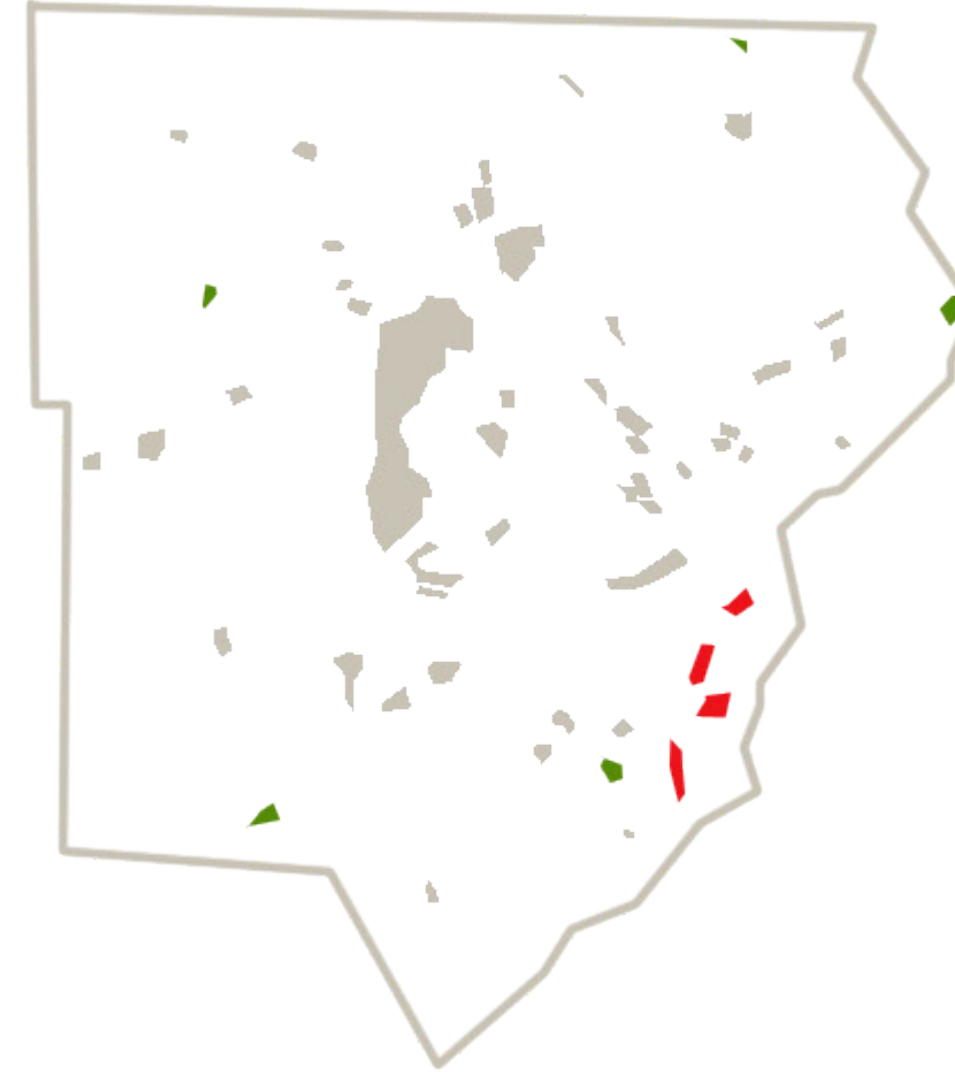
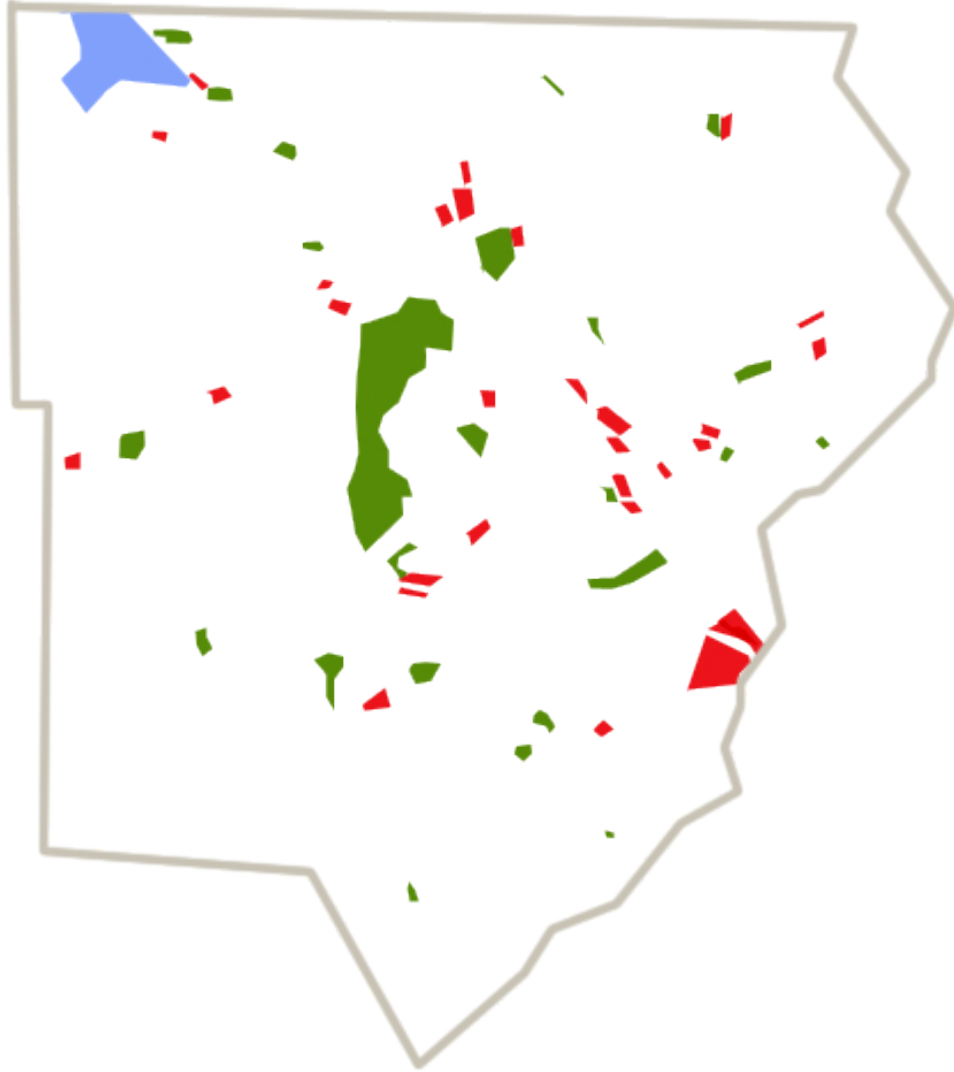
The Play aspect of Cobb County is evenly spread out with activities ranging from natural parks to malls and movie theaters.

Cobb County 2040:

The projected play of Cobb County is mostly focused in Symrna. This is caused by the new location of the Atlanta Braves stadium, which is bringing a new life to the area.

- EXISTING PLAY
- PARKS
- FAMILY ENTERTAINMENT
- LAKES AND RIVERS

2015



2040

Travel

Cobb County 2015:

The Current travel system include Primary roads, Secondary roads, and Tertiary roads. The Primary roads in Cobb County are I75, I575, I20, and I285.

Cobb County 2040:

No new primary roads are projected for the near future. The plan for alleviating traffic is to add more lanes to our current highways. Currently, there is a new express lane under construction which will alleviate traffic for people willing to pay a toll.

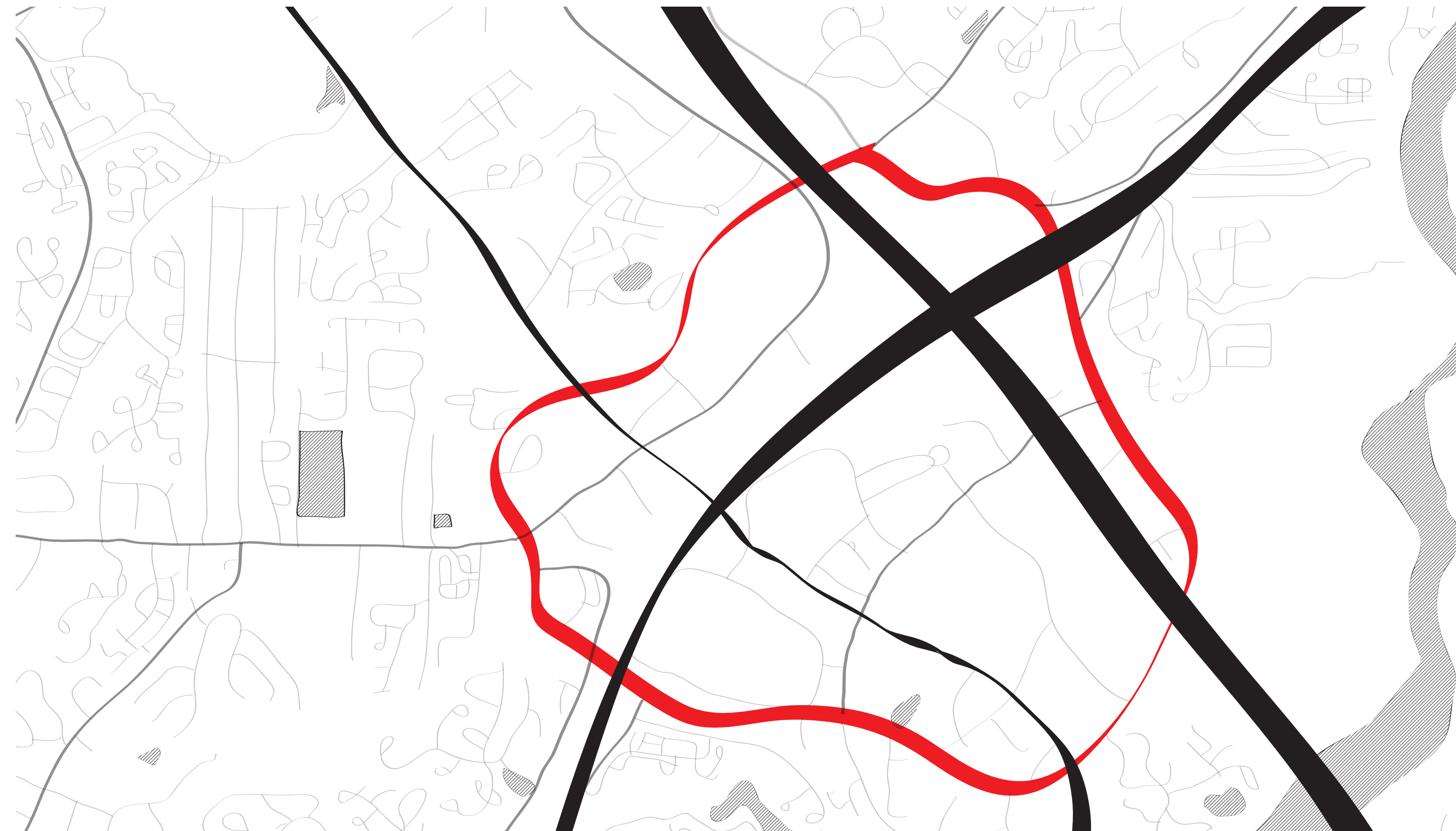
- EXISTING PRIMARY
- EXISTING SECONDARY
- EXISTING TERCERY
- PRIMARY
- SECONDARY
- TERCERY

2015

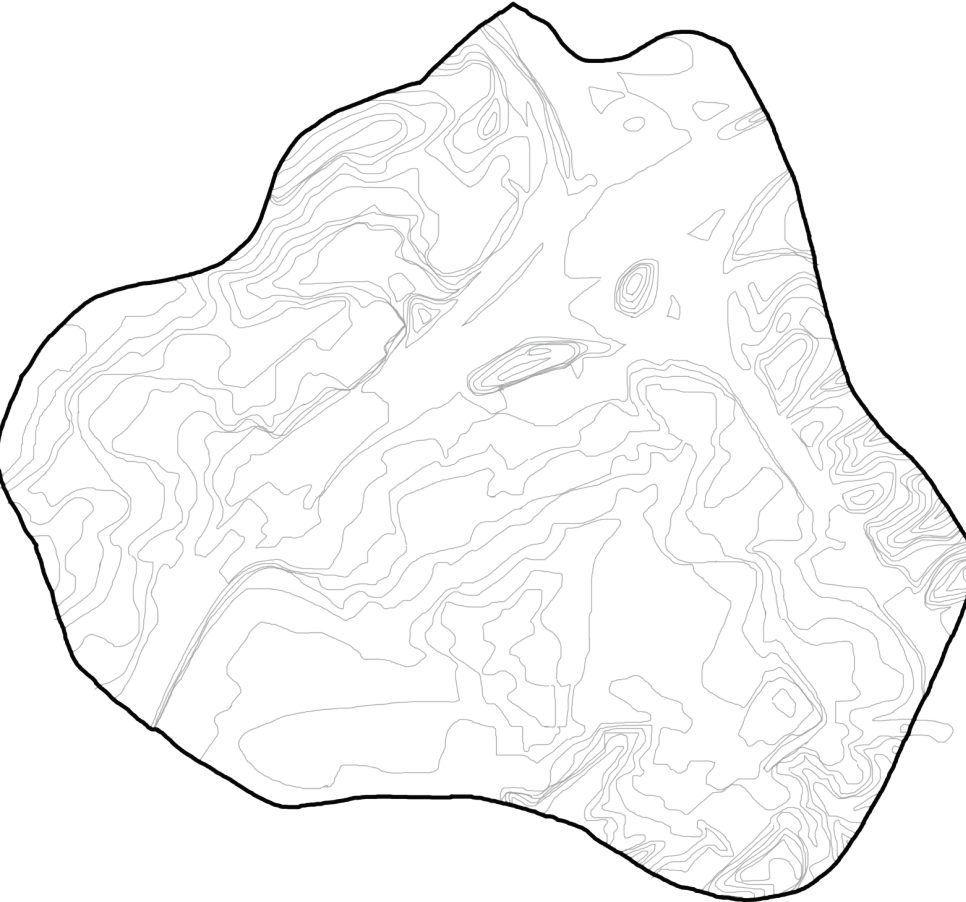


2040

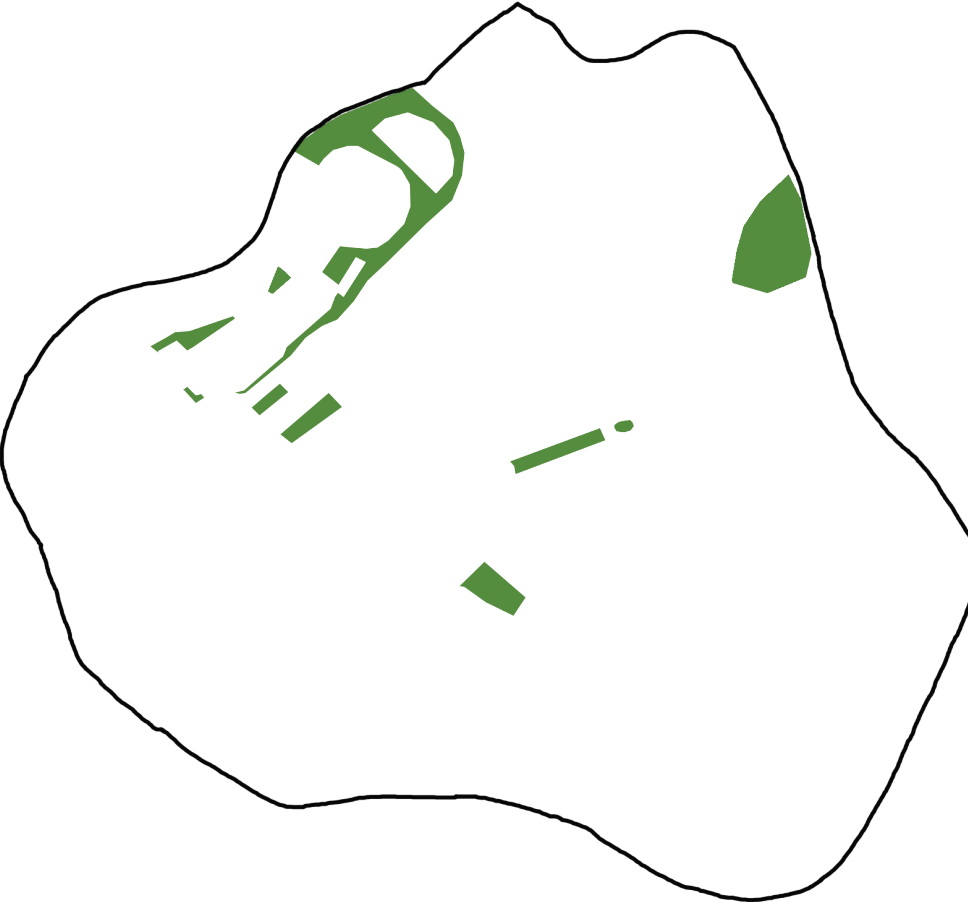
The Battery Atlanta Site Analysis



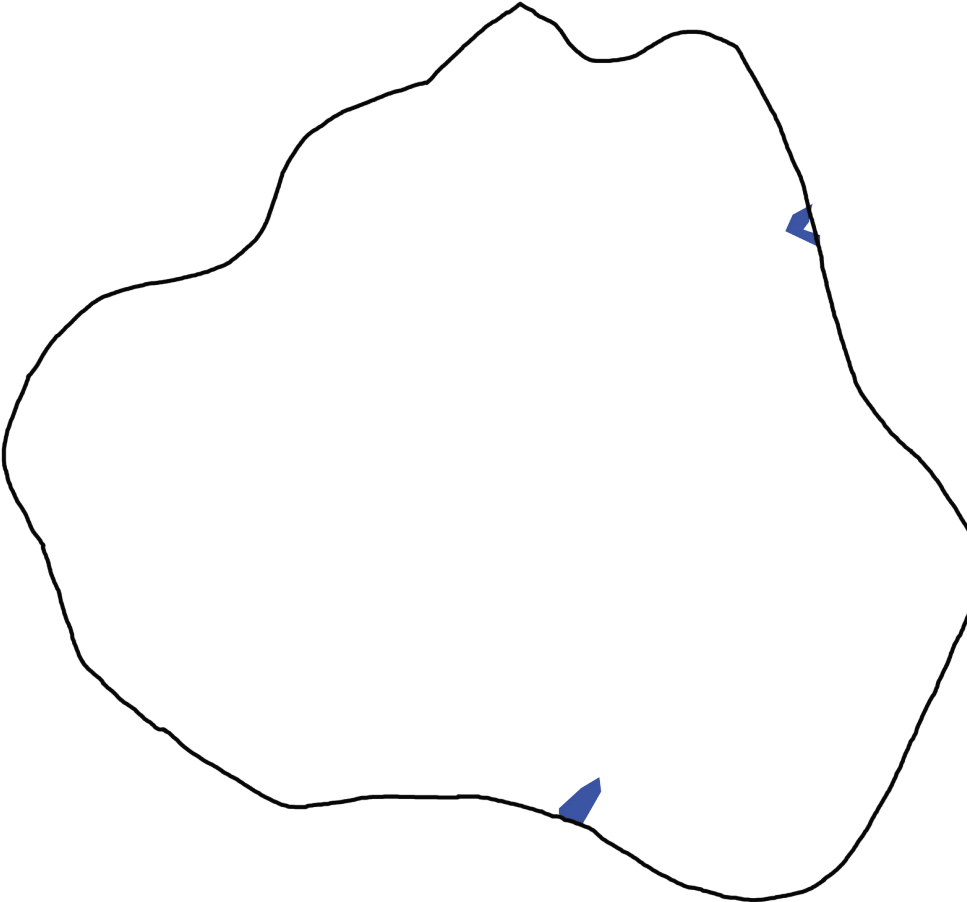
Site Analysis



Topography



Green Space



Water Space

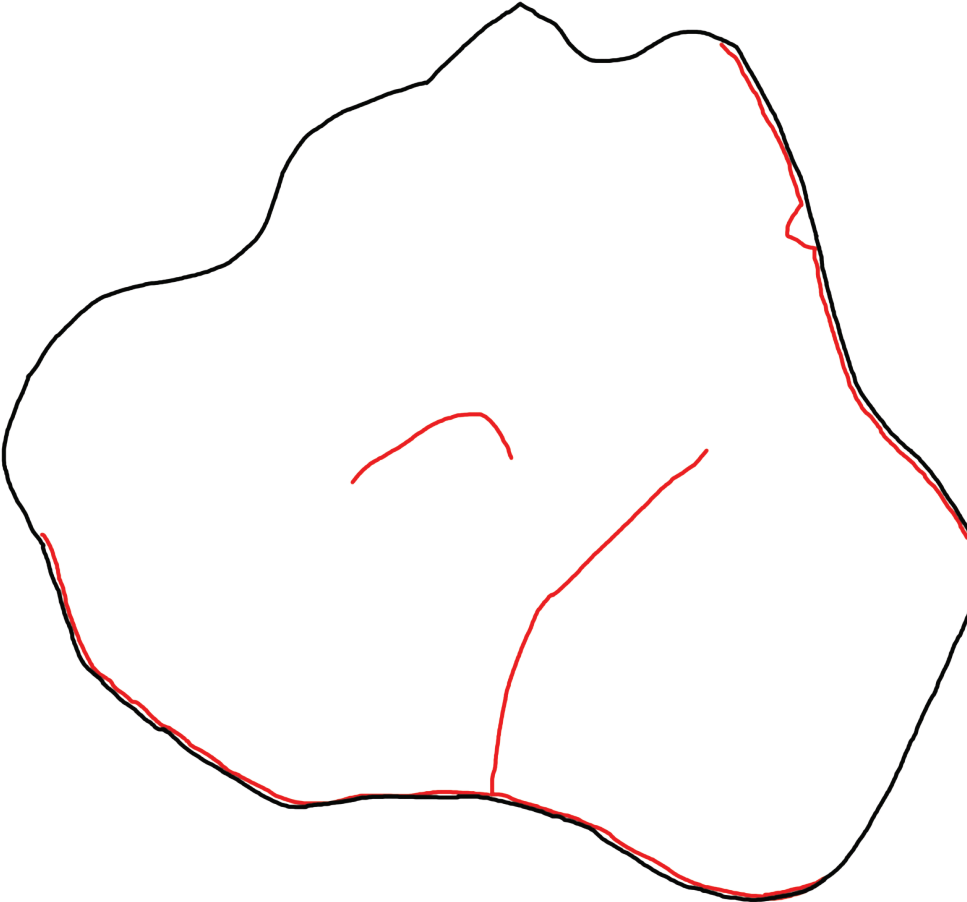
Site Analysis



Figure Ground



Infrastructures



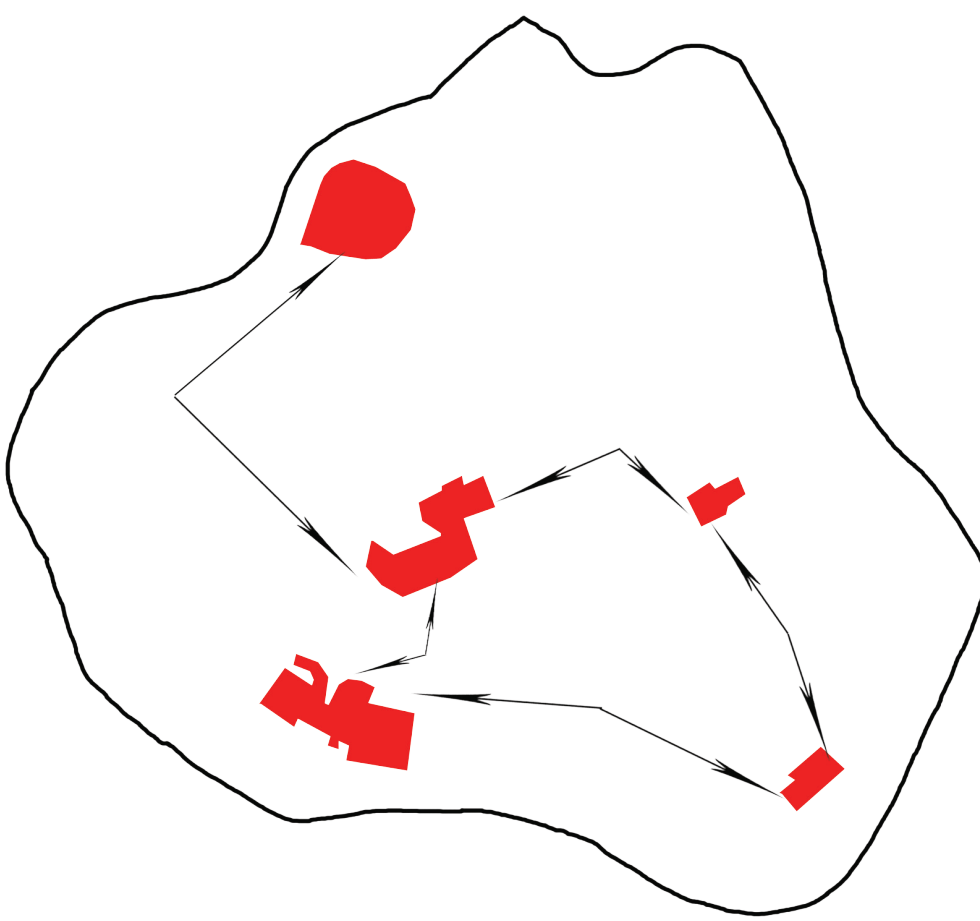
Pedestrian Friendly Roads

Site Analysis



- ENTERTAINMENT
- MIXED USE
- HOTEL
- OFFICES
- FOOD
- SHOPPING
- RESIDENTIAL
- BANKS

Program



Anchor Points



Site Lines

MARTA Station at The Battery Atlanta



MARTA Station at The Battery Atlanta:

The Battery Atlanta is the newest Live, Work, Play community in Metro Atlanta. It is located at the intersection of Interstate 75 and Interstate 285 in Symrna. The Battery Atlanta features Suntrust Park, the Coca Cola Roxy Theater, an ampitheater, several restaurants and bars, and several living opportunities. The Battery Atlanta which opened spring of 2017 is expected to be busy through out the day, regardless of when the Atlanta Braves play. The Battery Atlanta currently has only 11,000 parking spaces available to the public on game days for a stadium that seats 45,000 people. The limited parking spaces available and the expected occupancy of the Battery Atlanta is an issue in regards to traffic and parking. Due to the high population of the area and the expected peak time usage of the Battery Atlanta, there needs to be a MARTA station on Site. Currently the only available space for a MARTA station on site is located on the edge of the block at the intesection of Cobb Parkway and Windy Ridge Parkway.

MARTA Station at The Battery Atlanta



MARTA Station at The Battery Atlanta



Turner Broadcasting South Sports:

The Second Floor of the mixed use MARTA Station if Turner Broadcasting South Sports new headquarters. Conveniently located close to the Braves new stadium, Suntrust Park. Being close allows Turner Broadcasting South to get the latest updates and the quickest gameday interviews.

Second Floor - TBS Sports

MARTA Station at The Battery Atlanta



Market Space:

The First Floor of the MARTA station is a Market Space. The Market Space offers shops, restaurants, and bars. The First Floor also has a patio space that could be used for tailgating on game days. In order to show the game in the tailgating space, the glass curtain wall would be made of a smart glass. Smart glass is a glass system that contains 2 panes of glass with electrochromatic devices that enable the owner to change the opacity of the glass, allowing the owner to project an image onto the glass.

First Floor - Market Space

MARTA Station at The Battery Atlanta



Mezzanine:

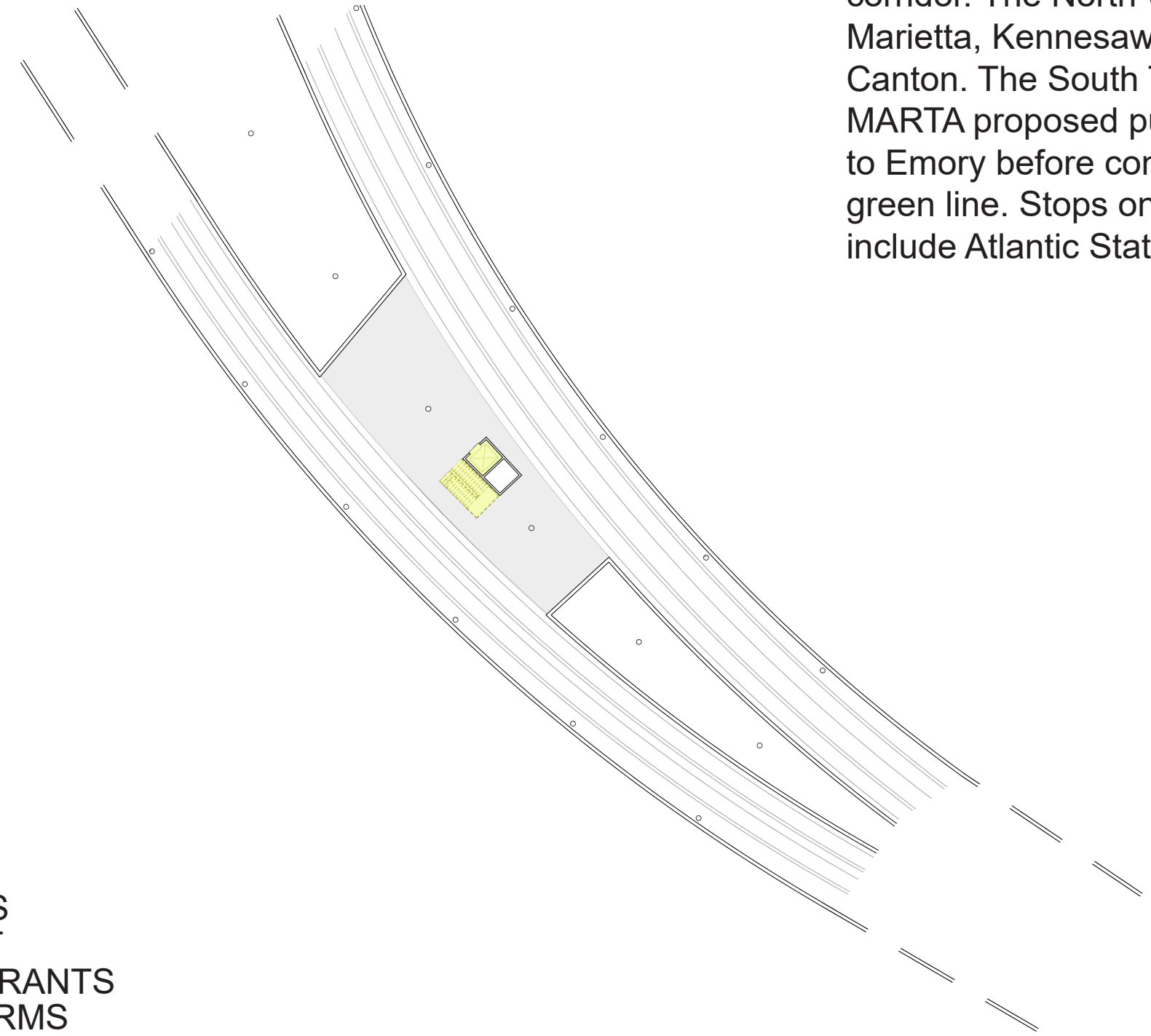
The Mezzanine platform allows the purchase and transfer between the North- South Platform and the East-West platform.

Platform Mezzanine

MARTA Station at The Battery Atlanta



- OFFICES
- MARKET
- RESTAURANTS
- PLATFORMS
- CIRCULATION



North-South Platform:

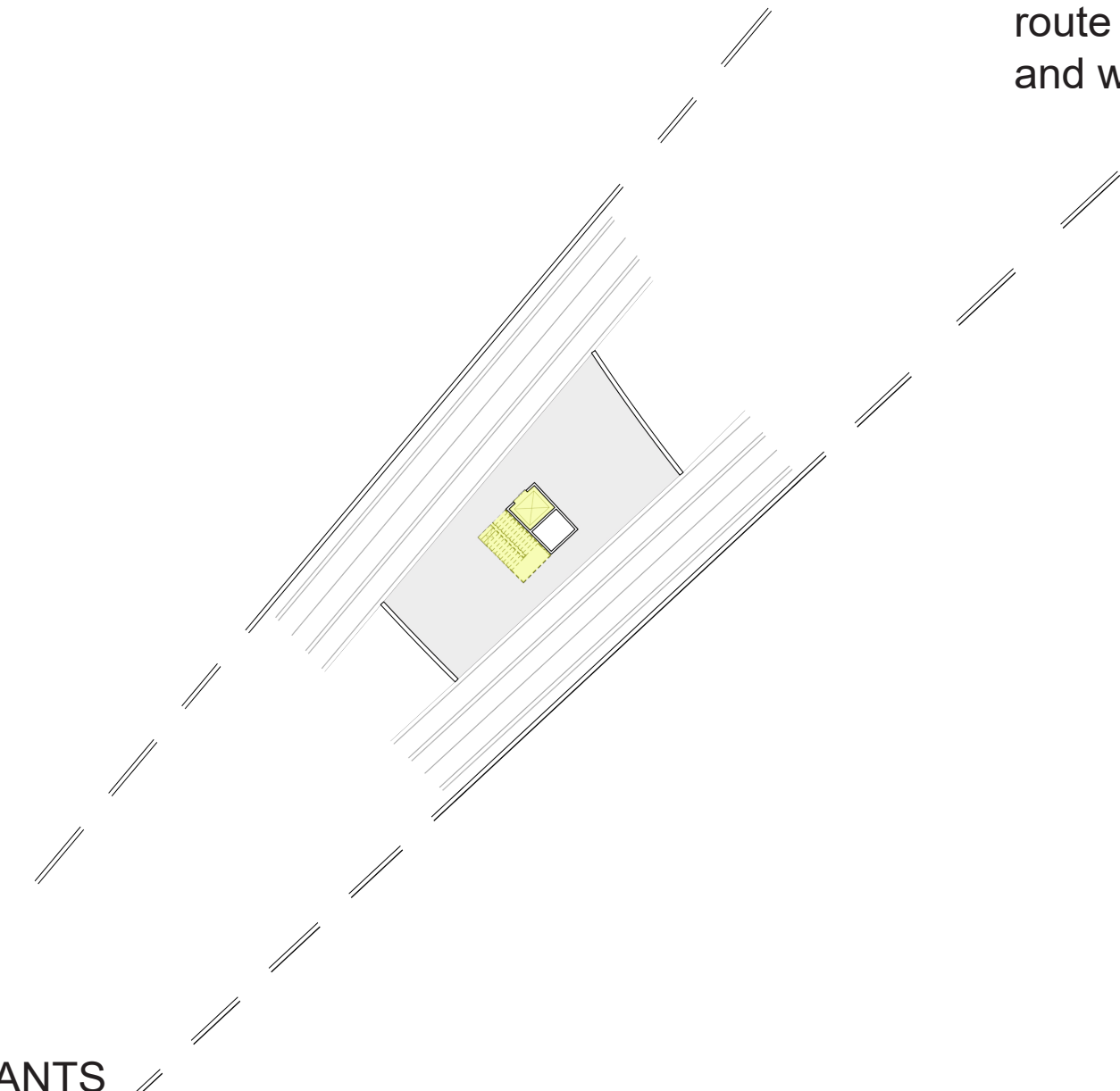
This Platform give the rider access to the North and South Trains that would follow the I75 corridor. The North would continue to stops in Marietta, Kennesaw, Acworth, Woodstock and Canton. The South Trains would connect with MARTA proposed purple train that connects to Emory before connecting with the blue and green line. Stops on the South train would include Atlantic Station.

North-South Platform

MARTA Station at The Battery Atlanta



- OFFICES
- MARKET
- RESTAURANTS
- PLATFORMS
- CIRCULATION

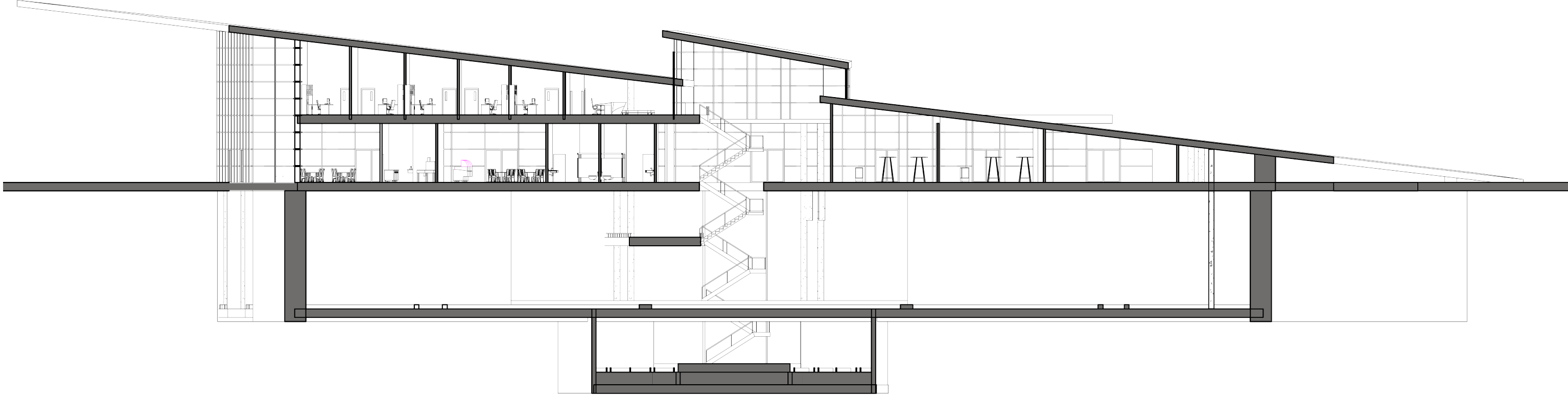


East-West Platform:

This Platform give the rider access to the East and West Trains that would follow the I285 corridor. The loop train would connect all MARTA's trains in a more efficient manner for Metro Atlanta. This would enable a more direct route for people living outside the perimeter and working outside the perimeter.

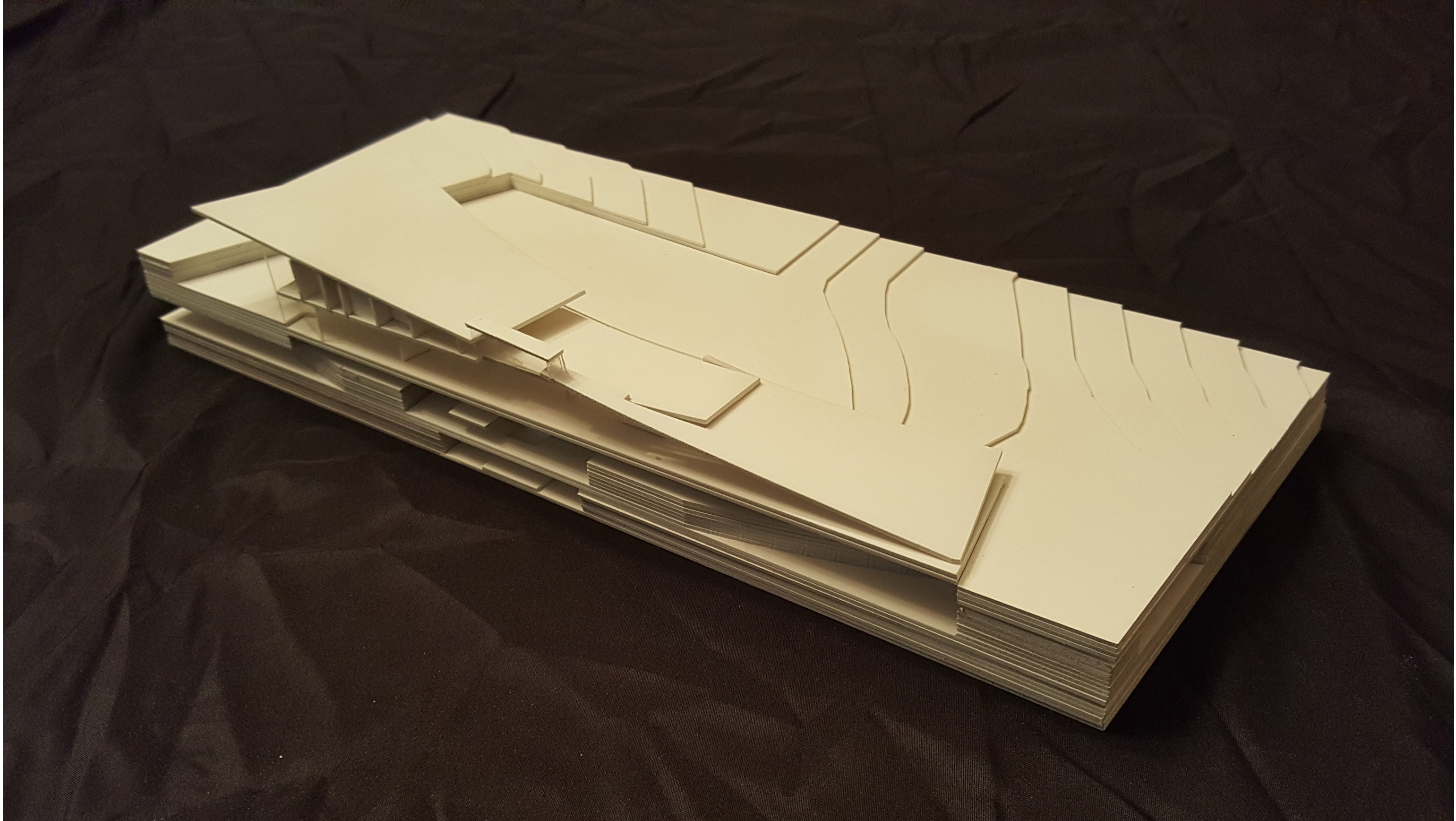
East-West Platform

MARTA Station at The Battery Atlanta

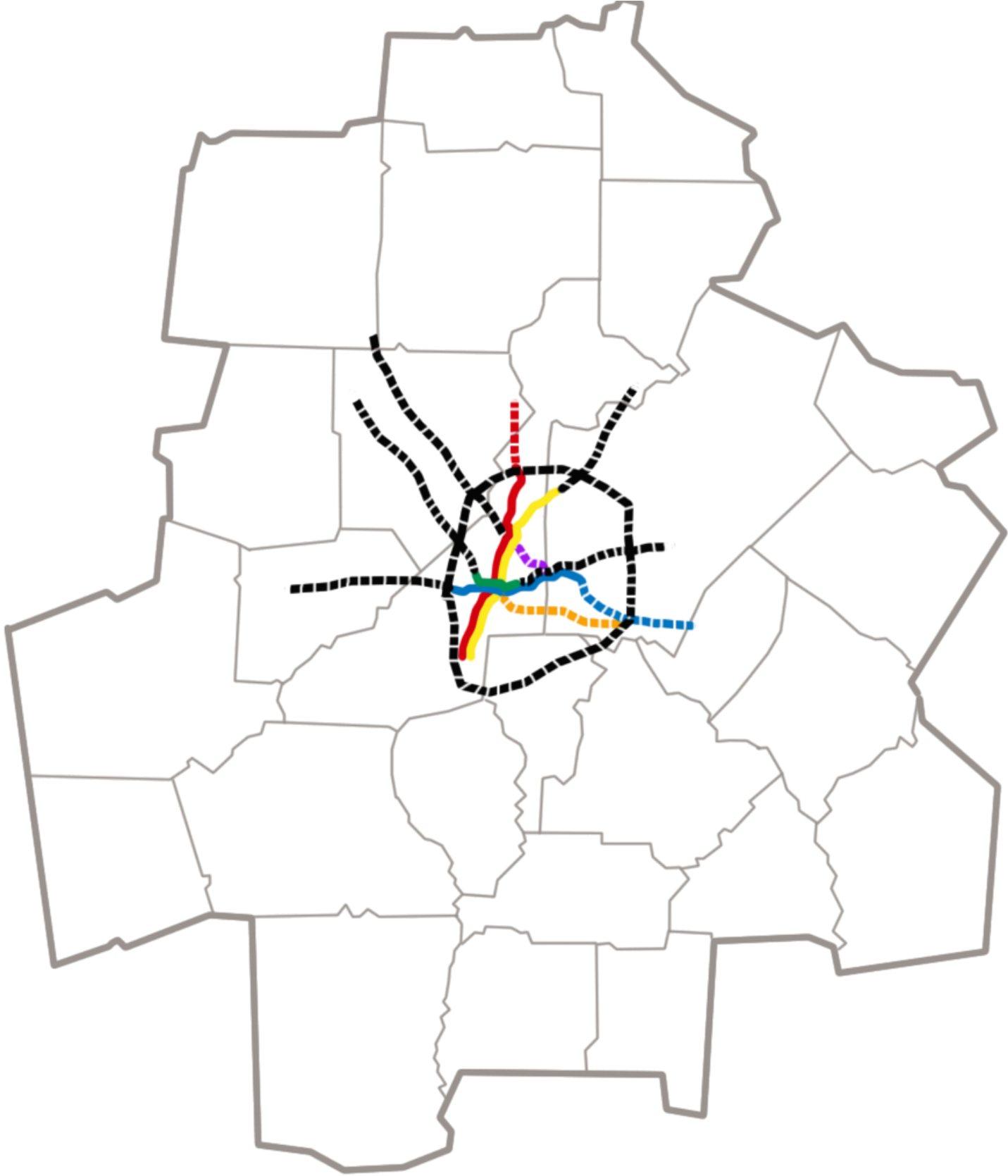


Section

MARTA Station at The Battery Atlanta



MARTA Expansion



Proposed MARTA Expansion:

MARTA has proposed the following expansion and new rail lines throughout Fulton and Dekalb County. MARTA has proposed an expansion of the Red line further north toward Alpharetta. MARTA has also proposed the expansion of the Blue line further into Dekalb county toward the 285 perimeter. MARTA has proposed the purple line which MARTA intends to be a light rail train through the east side of Atlanta. MARTA has also proposed the orange rail which is proposed as a light rail system. This thesis is arguing the effectiveness of a light rail system and is proposing the purple and orange lines are Rapid Transit Lines instead, to accommodate the heavy usage. This thesis proposes five expansions of current and proposed lines further into Metro Atlanta. This thesis also proposes a rapid transit rail around the perimeter, to allow more transfer stations, allowing easier transportation.

- EXISTING RED LINE
- EXISTING GOLD LINE
- EXISTING BLUE LINE
- EXISTING GREEN LINE
- - - MARTA's PROPOSED EXPANSION
- - - MARTA's PROPOSED EXPANSION
- - - MARTA's PROPOSED EXPANSION
- - - MARTA's PROPOSED EXPANSION
- - - PROPOSED EXPANSION

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Atlanta is ranked 12th worst state in regards to traffic. On average Atlanta commuters spend 52 hours a year in traffic.
10. Trumbull, Doug, AJC, for t. Traffic lessons for Atlanta can be found on Turkish roads 2015
Proposes that we should follow the Turkish model for mass transportation. Turkey has less traffic violations and collisions than Atlanta.
11. "Who We Are | Overview." Who We Are | Overview. Accessed April 22, 2016. <https://www.metro.net/about/agency/mission/>.
Official website of Los Angeles County Transportation Authority